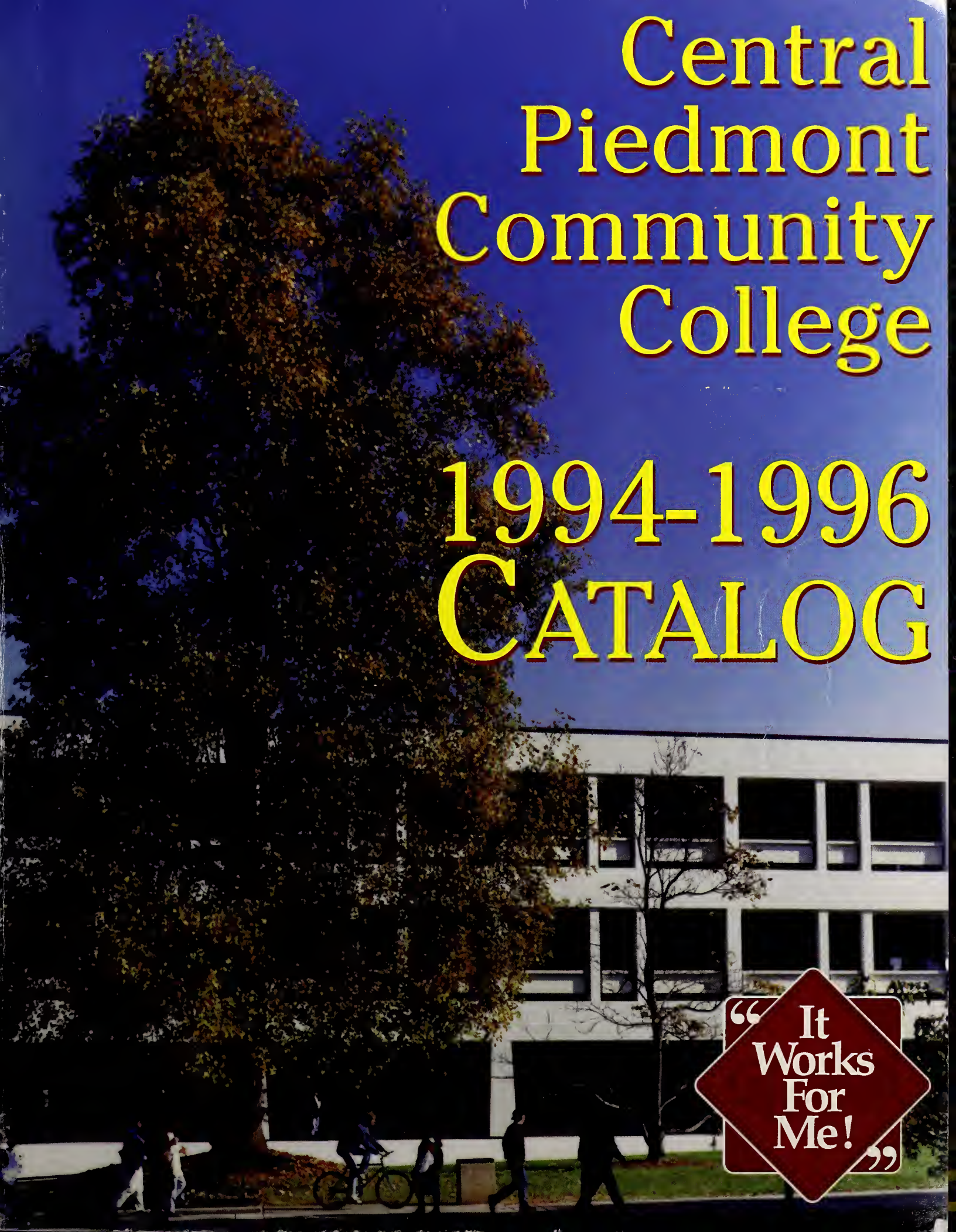
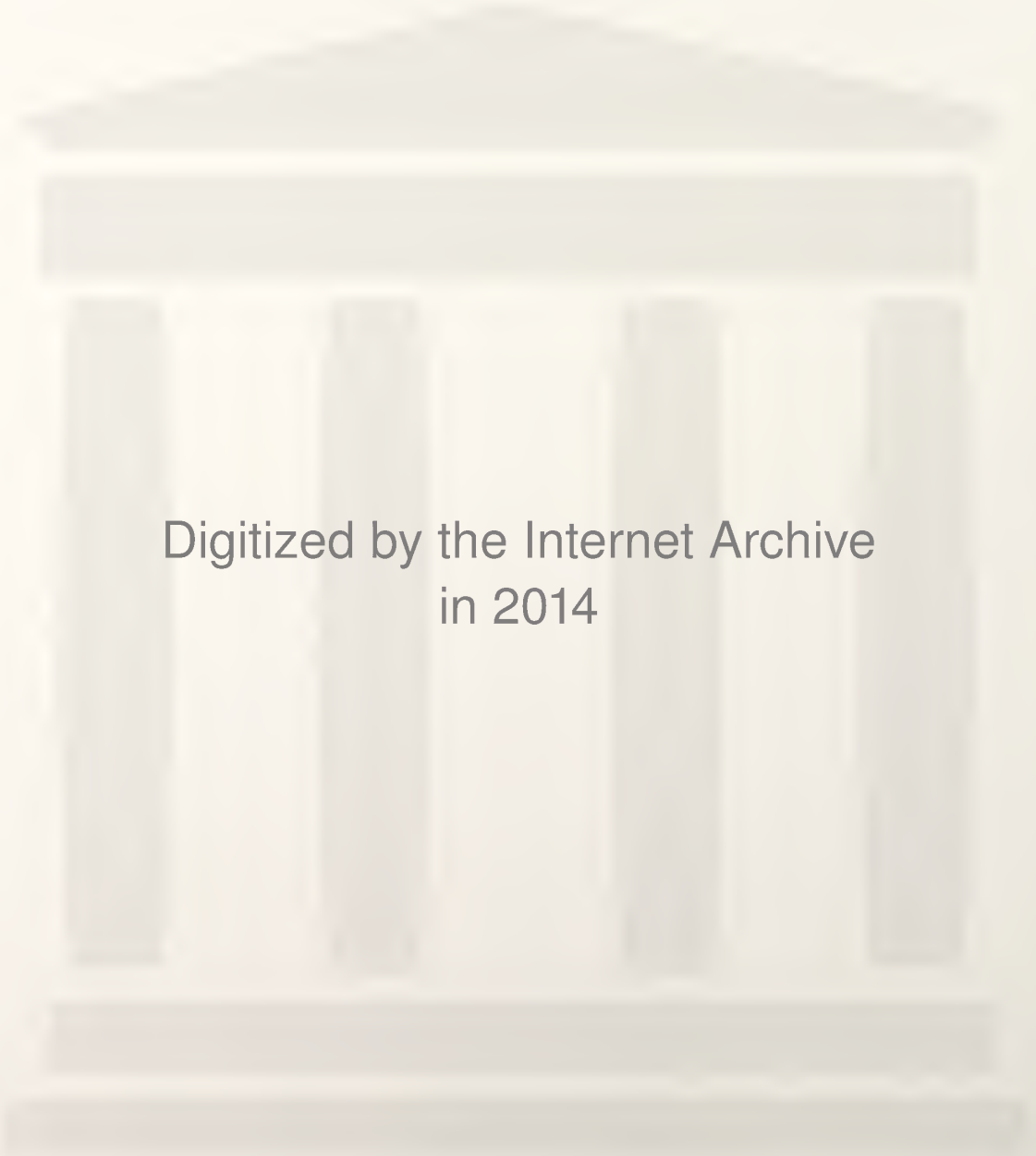
Central Piedmont Community College

1994-1996 CATALOG

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Central Piedmont Community College

Directory

Welcome Center

(704) 342-6719 — Central Campus
Monday-Thursday: 7:30 a.m.-8:30 p.m.
Friday: 7:30 a.m.-5:30 p.m.
Saturday: 7:30 a.m.-1:30 p.m.

Academic Advising Center

(704) 342-6719 — Central Campus
Monday-Thursday: 8:00 a.m.-7:00 p.m.
Friday: 8:00 a.m.-4:30 p.m.

College Switchboard

(704) 342-6633
Monday-Friday: 8 a.m.-5 p.m.
(Also see Charlotte Telephone Directory for specific Central Campus and Area Center listings.)

Mailing

P.O. Box 35009, Charlotte, NC 28235-5009

Delivery

1201 Elizabeth Avenue, Charlotte, NC 28204

Area Center Locations and Telephones

(not for mailing or delivery)

North Center — Verhoeff Drive, Huntersville, NC
(704) 875-8360

South Center — Highway 51 and Reverdy Lane
Matthews, NC
(704) 847-1477

West Center — Freedom Drive, Charlotte, NC
(704) 342-6658

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Notes

Changes
• CPCC reserves the right to change its regulations, policies, fees, and programs without notice.

CPCC Catalog and CPCC Class Schedules
• Not all courses in this catalog are offered each quarter.
• Quarterly class schedules, listing times and locations of classes to be available during Registration, are distributed in Mecklenburg County approximately six weeks prior to the beginning of each quarter.
• Catalogs and Class Schedules may be obtained at the Welcome Center on the Central Campus, at any of the Area Centers (North, South, West), or by calling (704)342-6719 to request copies by mail.

Equal Opportunity/Affirmative Action
In compliance with federal law, including the provisions of Title IX of the Education Amendments of 1972, and Sections 503 and 504 of the Rehabilitation Act of 1973, Central Piedmont Community College does not discriminate on the basis of age, color, ethnic or national origin, handicap, military service, race, religion, or sex in its administration of education policies, programs, or activities; its admissions policies; scholarship and loan programs; or employment. Inquiries or complaints should be directed to the Director of Affirmative Action and Compliance, Room 522, Terrell Administration Building, (704)342-5931.

Open Door Policy
CPCC has an open-door admission policy for all applicants who are high school graduates or who are at least 18 years of age.

Admission to the College is open without regard to race, creed, handicap, national origin, sex, or age to any student who meets the graduation or age standard.

Some degree programs have specific requirements for admission. These requirements are available from the Department Head or a Program Counselor.

Tuition
Tuition is set by the North Carolina State Board of Community Colleges and is subject to change without notice.

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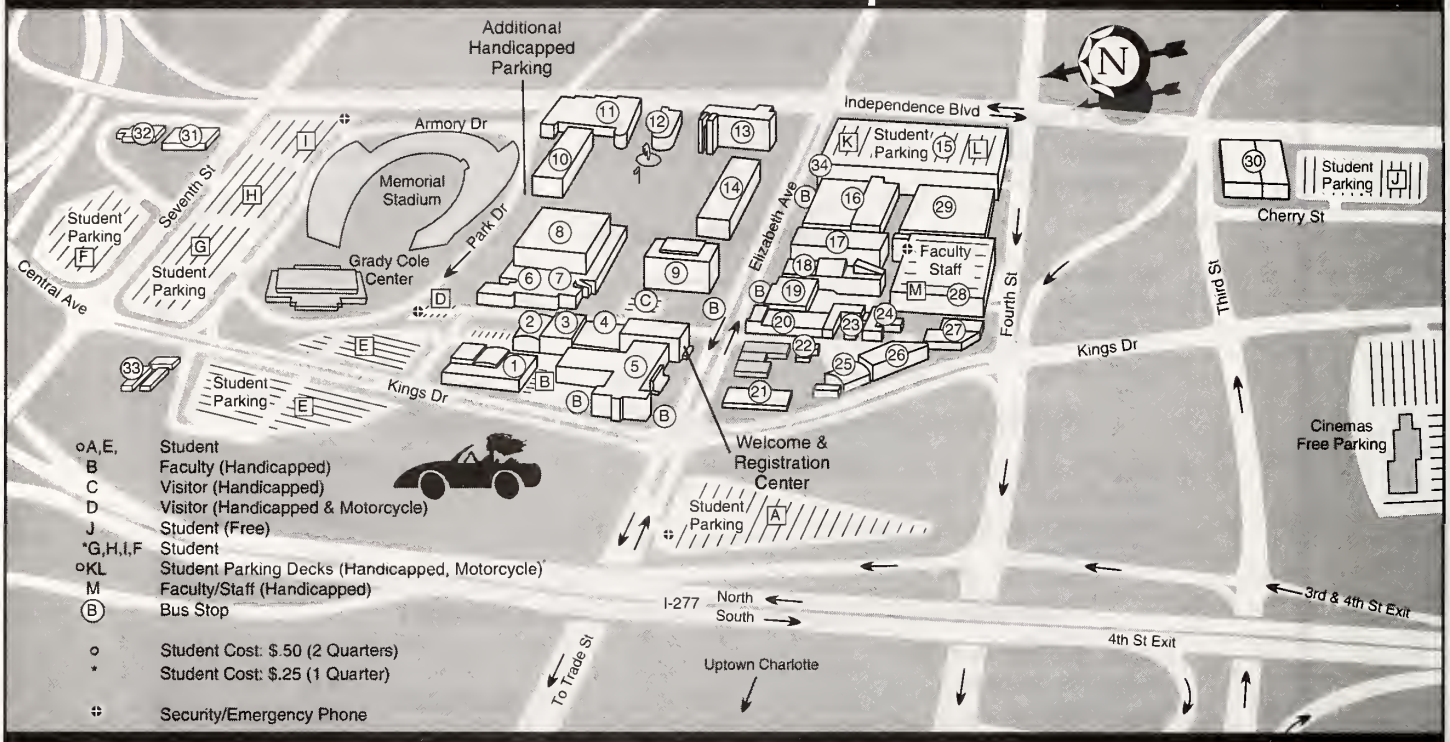
Renee P. Westcott ..... Dean, Basic Studies

CPCC Main Campus



CENTRAL PIEDMONT COMMUNITY COLLEGE

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Parking Instructions

- Bring at least 2 quarters. You will need them to get out of the lot.
- Park only within lined spaces in the type of lot designated by your permit.
- Parking in a handicapped parking place without a handicapped placard is illegal. Violators will receive a $100 City of Charlotte ticket. Contact the NC Division of Motor Vehicles for an application for a placard.
- Temporary permits: Before parking, any person needing a permit for Lot D should go to the Security Office (#34 on map.)

Getting to CPCC

- **From Charlotte Airport:** Exit Airport, left lane to I-85 N. Exit right to Hwy 16 (Uptown) at mile 36. Take I-77 S. Exit 10-B (Trade, 5th St..) Stay on Trade through town. Trade becomes Elizabeth Avenue.
- **From Hickory:** Hwy 16 S. Join I-77 S. Exit 10-B (Trade, 5th St..) Stay on Trade through town. Trade becomes Elizabeth Avenue.
- **From Gastonia:** I-85 N. Join I-77 S. Exit right to Hwy 16 (Uptown) at mile 36. Take I-77 S. Exit 10-B (Trade, 5th St.) Stay on Trade through town.
- **From Statesville:** I-77 S. Exit 10-B (Trade St..) Stay on Trade through town.
- **From Concord:** I-85 S. Take right exit 38, immediate left to I-77 S. Exit 10-B (Trade, 5th St..) Stay on Trade through town.
- **From Monroe:** Hwy 74 N (Independence Blvd.) right lane. Turn right on 4th St. for student parking deck entrance.
- **From Rock Hill:** I-77 N Exit right 10-B (Trade, 5th St.) Stay on Trade through town.

Mission

Mission Statement

Central Piedmont Community College

Purpose

Central Piedmont Community College is an innovative and comprehensive public two-year college with a mission (1) to advance the life-long educational development of adults consistent with their needs, interests, abilities, and efforts, and (2) to strengthen the economic, social, and cultural life in the Charlotte-Mecklenburg region of North Carolina.

The College accomplishes this purpose by providing high-quality, flexible educational programs and services which are academically, geographically, and financially accessible, and which meet individual and community needs. This purpose requires a fundamental commitment to teaching excellence and a supportive, caring student environment.

History

In 1963, Mecklenburg College and the Central Industrial Education Center were merged to establish Central Piedmont Community College, one the first of the 58 colleges in the NC Community College System. The substantial increase in the educational and training needs of the community since 1963 have required commensurate expansion of the College's education programs and facilities.

In 1963, there were 23 degree and diploma programs; now there are more than 70, along with a comprehensive literacy program and an extensive array of corporate and continuing education offerings. In 1963, the College occupied the structures formerly used by Charlotte's Central High School; now there is a 35-acre Central Campus uptown, and classes are also offered at three Area Centers and at more than 200 other sites in the county. Recognizing that the Central Campus is experiencing maximum utilization, the College trustees in 1989 authorized the development of comprehensive campuses in three areas of Mecklenburg County to accommodate the ever increasing needs of the burgeoning Charlotte-Mecklenburg community.

CPCC's standing among institutions of higher learning has kept pace with the development of its programs and facilities. It was fully accredited to award associate degrees, diplomas, and certificates in 1969 by the Commission on Colleges of the Southern Association of Colleges and Schools. Today, many of its programs have special accreditation as well. In 1969, it became a member of the League for Innovation in Community Colleges and has been identified as one of the top five of the nation's two-year colleges in teaching excellence.

The Educational Vision Of CPCC

The CPCC community envisions a future for this growing metropolitan area where there is a strong sense of community and life is rewarding — a future built upon the full participation and success of all citizens and the best possible use of human, financial, and natural resources:

"We will take a vigorous leadership role in identifying and addressing the issues which are pivotal in making this vision a reality, for we recognize that our present and future are closely entwined with the health and vitality of the greater Charlotte-Mecklenburg region.

"Central to our effort is maintaining excellence as we adapt our comprehensive programs and services to meet the educational needs of a constantly changing, technically advanced, interdependent, and complex world. More than ever before, students need advanced communication and computation skills and the mental receptiveness to acquire and apply knowledge throughout their lives. They also need to develop attitudes which support personal development and ethical understandings which will build community, both regional and global. CPCC's leadership role requires us to explore new academic and administrative paths in the way we educate and support our students. As we grow and change, we will reflect on our efforts and demonstrate accountability for the proper and wise use of resources. We will pursue new and better ways to assess student learning and experience so that both we and our students can improve our effectiveness.

"CPCC's educational vision will be realized in an increasingly diverse community and world. Although diversity presents many challenges, we perceive diversity as a strength. Our students mirror the community, coming to us with differences in educational preparedness and intent, demographic and socio-economic backgrounds, and cultural/ethnic influences. In honoring our commitment to the open-door concept, we are determined to provide the appropriate support which gives meaning to access.

"We realize we cannot achieve this vision alone; partnerships with other institutions, in our area and beyond, are critical factors in our success. We believe that building a teaching and learning community 'in its broadest and best sense, encompasses a concern for the whole, for integration and collaboration, for openness and integrity, for inclusiveness and self-renewal.'"

'AACJC Commission on the Future of Community Colleges

Functional Areas

To carry out CPCC's mission, the College provides educational programs and services in the following areas:

- ***Business, Health, and Technology Programs***

The cornerstone of the Community College System in North Carolina is the preparation of students for a first career, career change, and career advancement to meet individual goals and regional needs. The College provides vocational and technical programs in a broad range of occupational areas. Two-year associate degrees and shorter term diploma and certificate programs are offered. In support of these programs, the College will continue to form major partnerships with business and industry, fueled by the advances in technology.

Business, Health, and Technology graduates develop marketable employment skills and college-level academic skills. In some cases, these degree programs and classes are transferable to four-year institutions. Non-degree seeking students reach other career goals such as updating job skills, career advancement, and re-entry into the work force with marketable skills.

- ***Transfer Programs***

From its inception, the College has provided the first two years of study in the arts and sciences and pre-professional fields for those students who wish to transfer to four-year colleges with junior status. Students are able to transfer courses or an associate degree to four-year colleges and have the background and skills to succeed in their further studies. Graduates have a foundation in their areas of specialization, have college-level academic skills, and have successfully completed the general education core curriculum.

• ***Basic Skills Programs***

Expanding higher education opportunities to populations previously underserved was a founding principle of the community college movement. This open-door policy mandated basic skills programs for underprepared students.

Adult basic education programs provide basic literacy instruction and functional living skills. Adult high school and GED programs assist high school drop-outs and adults in completing high school. Developmental education provides classes for high school graduates who lack college skills. Although students in these programs have very diverse goals and many students stop short of entry into college-level programs, all basic skills programs are designed to provide the necessary skills and confidence to be successful in the next level of education.

• ***Corporate and Continuing Education***

The economic development of the Charlotte-Mecklenburg region is the major thrust of corporate and continuing education. The College provides programs and services specifically designed to meet the training and re-training needs of business and industry and other area organizations, as well as meeting individual career goals for the general adult population. The formation of dynamic partnerships with community organizations and business and industry is often a critical component in meeting these needs.

The College also provides programs and services for the general adult population which stress life-long learning in the areas of academic, cultural, social, recreational, and personal development.

Business and industry and other community organizations receive assistance in identifying their training needs and in developing flexible programs and services to meet these needs.

• ***Community Service***

Central Piedmont's community service programs are widely known for their responsiveness and high quality in the Charlotte-Mecklenburg region. The College provides a wide range of cultural and artistic events, speakers, professional and technical assistance, and civic education, as well as the use of College facilities.

• ***Student Development and Support***

The diversity of the student body has made the student development and support area more critical than ever. The College provides services for recruitment and enrollment, for academic advising, for career and personal counseling, for student activities, and for special populations including high risk students. The faculty plays a supportive role in these endeavors.

Students receive timely and accurate information about College programs and services and receive assistance in their academic, career, and personal development. The degree to which student support services are effective has a major impact on student success.

• ***Instructional Development and Support***

CPCC is a leader among community colleges in instructional development and support. Experimentation and innovation in instruction and the use of alternative instructional delivery systems remain a major focus.

The College provides support for instructors to experiment with non-traditional modes of teaching and learning through classroom research, through the use of technology incorporated into the classroom, and through alternative delivery systems and scheduling. The instructional support area provides library, media, and learning laboratory services which give support to instructors and students to enhance the teaching and learning process.

• ***Administrative Support***

CPCC administration provides effective leadership by setting the tone and direction and by granting employees the authority and resources to carry out their duties.

The College efficiently and effectively expends its resources and is committed to maintaining a leadership role in its utilization of personnel and facilities. The College provides the organizational support areas of institutional research and planning, staff and resource development, and marketing and community relations. Effective administrative processes allow the College to focus on its primary mission of providing educational programs and services.

Institutional Values

Shared values and clear expectations affect how well CPCC succeeds in accomplishing its mission. Based upon this belief, we hold the following institutional values:

• ***Worth and Dignity of the Individual***

"We believe that each person is important. We appreciate the diversity in the students we serve and in ourselves. We are committed to the policies of equal opportunity and affirmative action for employees. We treat others with respect and fairness."

• ***Individual Growth and Development***

"We value the talent and abilities of our faculty and staff. We try to bring out the best in our students and ourselves. We believe that meaningful and productive work encourages individual initiative and offers fulfillment. We assist student growth toward productive citizenship, self-direction, and personal responsibility. We encourage professional development and growth for all employees."

• ***Accessibility***

"We recognize that many diverse barriers hinder student access to educational opportunities. We are committed to recruit and provide services to populations traditionally underserved by higher education because of these barriers. In this endeavor, innovation and technology play key roles."

• ***Excellence***

"We value a job well done and believe that each individual strives for excellence. We aim for the highest level of professionalism, competence, and productivity as standards for our college. We aim for responsible participation and high achievement as standards for our students."

• ***Innovation***

"We value the flexibility and diversity of our human resources and realize that there are varied approaches in carrying out our mission. We promote innovation and responsible experimentation."

• ***Community***

"We believe that a strong and vibrant community can only be built on the full participation and success of all of its citizens within a healthy natural environment. This concept encompasses our local community and the larger state, national, and global communities. We value relationships with other institutions in our region and beyond and recognize the need to work together and avoid unnecessary duplication of effort in our common goal to reach the total population."

• *Accountability*
"We recognize that we hold the institution in trust for the citizens of Charlotte-Mecklenburg, serving as stewards for our human, financial, and physical resources. We are accountable for our use of these resources to reach our mission. We document our progress in an on-going program of institutional effectiveness and use the results of assessment to improve programs and services."

Accreditation

Central Piedmont Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award associate degrees, diplomas, and certificates, as well as by the following:

American Association of Medical Assisting: medical assisting program

American Dental Association Commission on Dental Accreditation: dental assisting and dental hygiene programs

American Medical Association Committee on Allied Health Education and Accreditation: medical assisting , medical record technology, and respiratory care technology programs

American Medical Record Association: medical record technology program

American Physical Therapy Association Commission on Accreditation in Physical Therapy Education: physical therapist assistant program

Joint Review Committee for Respiratory Therapy Eduction: respiratory care program

National Automotive Technician Education Foundation: automotive technology and automotive service technician programs

National Board for Certified Counselors: courses in human services technology, early childhood, and interpreter training programs

North Carolina State Board of Community Colleges

North Carolina State Board of Nursing: associate degree nursing and licensed practical nursing programs

Technology Accreditation Commission of Accreditation Board for Engineering and Technology: architectural technology, civil engineering technology, computer engineering technology, electrical engineering technology, electronics engineering technology, manufacturing engineering technology, and mechanical engineering technology programs

Memberships

Central Piedmont Community College is a member of:
American Association of Community Colleges
American Association for Higher Education
American Council on Education
American Society for Engineering Education
COMBASE
Community College Consortium
League for Innovation in the Community College
Servicemembers Opportunity Colleges
Southern Association of Colleges and Schools

Consortium: Charlotte Area

CPCC is a member of the Charlotte Area Educational Consortium which includes:

Barber-Scotia College, Concord, NC
Belmont Abbey College, Belmont, NC
Catawba College, Salisbury, NC
Central Piedmont Community College, Charlotte, NC
Davidson College, Davidson, NC
Gaston College, Dallas, NC
Johnson C. Smith University, Charlotte, NC
Lenoir-Rhyne College, Hickory, NC
Livingston College, Salisbury, NC
Mitchell Community College, Statesville, NC
Pfeiffer College, Charlotte, NC
Queens College, Charlotte, NC
Rowan-Cabarrus Community College, Salisbury, NC
Stanley Community College, Albemarle, NC
University of North Carolina at Charlotte, Charlotte, NC
University of South Carolina at Lancaster, Lancaster, SC
Wingate College, Wingate, NC
Winthrop University, Rock Hill, SC
York Technical College, Rock Hill, SC

Among several Consortium activities is a cross-registration program that enables students to take certain courses not offered at CPCC at other Consortium schools.

For information, call (704) 342-6484.

CPCC Foundation, Inc.

The CPCC Foundation solicits contributions from individuals, corporations and foundations.

Gifts are used for student scholarships and endowments, furniture and equipment, recognition awards, and a variety of other purposes not covered by regular funding sources. The Foundation also enables the College to meet critical funding needs, frequently on an emergency basis. Honorariums and Memorial Funds can be established.

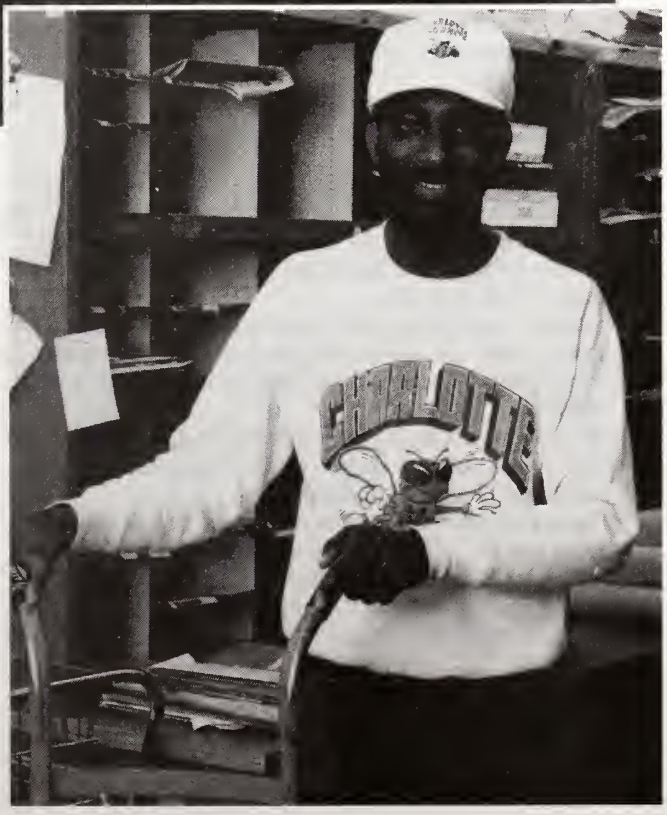
All contributions made to Central Piedmont Community College should be directed to the CPCC Foundation, a tax exempt 501 (C) (3) nonprofit corporation, operating exclusively for the benefit of the College and CPCC students.

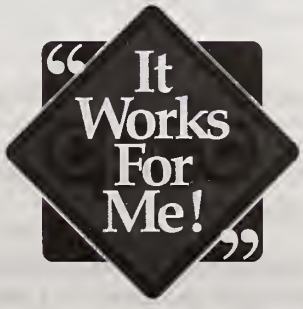
Gifts and correspondence should be sent to:

The CPCC Foundation, Inc.
Post Office Box 35009
Charlotte, NC 28235-5009

For more information, call (704) 342-6869.

Facilities





Facilities

The College is supported by state, federal and local funds to provide instruction, equipment, and laboratories for students at low tuition. CPCC's classes are held on the 35-acre Central Campus, three Area Centers, and at over 200 neighborhood high schools, churches, office buildings, community centers, and other locations.

Area Centers

• NORTH CENTER
(704)875-8360
11930 Verhoff Drive
Huntersville

• SOUTH CENTER
(704)847-1477
1201 Pineville-Matthews Rd.
Matthews

• WEST CENTER
(704)342-6658
2615 Freedom Drive
Charlotte

At any of the three Area Centers, students can submit CPCC admissions forms, have college skills assessed, register for classes, pay tuition, buy books, attend classes and (depending on the center) do lab work in accounting, business, advancement studies, and computer science. Each center also has a complete library of telecourses and audiocourses.

Classes at nearby high schools, churches, community centers and other locations in the neighborhood are supported and coordinated through the Area Center Services Department.

Central Campus

Elizabeth Avenue and Kings Drive, Charlotte

The 35-acre Central Campus houses classrooms, laboratories, studios, specialized shop areas, a learning resources center, bookstore, snack center, and student parking areas.

Parking

- The Central Campus includes paved and well-lighted paring parking areas. For the safety and protection of students, all campus parking decks and lots are regularly patrolled by Charlotte police officers and security personnel on contract with the college.
- Students may use any parking lot except those reserved for faculty, staff, and visitors. Access to student parking areas is controlled by "free in/pay out" gates which operate automatically.
- The cost of parking is determined by the distance from Central Campus: Nearby decks/lots, 50¢ (2 quarters); mid-distance, 25¢ (1 quarter); farthest, free.
- Parking access cards may be purchased for $20 per quarter at the Cashier's Office where tuition and fees are paid.
- A Parking brochure, which explains parking locations and regulations on the Central Campus, is available at the registration Center, the Admissions Center, and at the Area Centers.

Welcome Center

The Welcome Center on the Central Campus is a first point of contact by prospective students and visitors for information and materials about CPCC. Located on the second floor of the Garinger Building and accessible by ramp, the Center is open Monday-Thursday 7:30 a.m.-8:00 p.m.; Friday 7:30 a.m.-5:00 p.m.; and Saturday 8:00 a.m.-l:00 p.m.

For information or assistance, call (704)342-6719.

Testing and Assessment Center

The Testing and Assessment Center is located on the second floor of the Garinger Building. The Center administers a wide variety of tests for instructional, placement, diagnostic, certification, licensure, and other special purposes. It also serves as a national center for administering the College-Level Examination Program (CLEP).

The Center is dedicated to serving faculty, students, and community testing needs. Its physically attractive atmosphere and low-key method of operation help students reduce their anxiety about taking tests. Tests on classwork are taken within time-frames designated by instructors. By using the Testing and Assessment Center for test administration, class time becomes available for individual conferences, group discussion, and other educational opportunities. Students have more effective instruction, quicker feedback through faster scoring of tests, and more class time available for discussion by reducing the number of classroom hours given up for testing.

The Center is intended to help improve instructional effectiveness through more uniform student assessment and evaluation. It assists faculty in test development, administration, grading, analysis, and research..

The Testing and Assessment Center is open Monday through Thursday, from 7:30 a.m. until 8:00 p.m., with the last course test given out at 7:30 p.m. On Friday, the Center is open from 7:30 a.m. until 4:30 p.m., with the last course test given out at 3:30 p.m. Hours vary during quarter breaks. Placement testing is scheduled by appointment through the Admissions Office or through each Area Center. The Center cannot accommodate children. A photo ID is required.

For more information, call (704)342-6886.

Academic Advising Center

The Academic Advising Center is located on the second floor of the Terrell Building. Students who are not assigned advisors, who cannot find an advisor, or who have questions about programs and courses at CPCC may come in for assistance. The Center will be open most of the day and during some evening hours.

For further information about services available, call (704)342-6302.

Learning Resources Center

(The Richard H. Hagemeyer Learning Resources Center)

The Learning Resources Center is located in the center of the main campus and houses the Library, Instructional Technology, Distance Learning, and Area Center Services. Available resources

include general campus and college information, books, periodicals, films, tapes, computer hardware and software, and electronic information access and retrieval. In addition, the Learning Resources Center provides instructional development, instructional television, teleconferencing, telecourses, a radio reading service, photography, audio and television studios, and multimedia services to classrooms.

Library

• The Library, located within the Learning Resources Center, has a collection of print and non-print materials particularly suited to the objectives and programs of the College. Library resources include: the general book collection, reference books, bound and unbound periodicals, pamphlets, microforms, audio-visual materials, CD-ROMS and online databases. An open-shelf arrangement is used to stimulate interest and to provide easy access to print and non-print materials..

- Library hours are: Monday-Thursday, 7:30 a.m-8:55 p.m; Friday, 7:30 a.m.-4:55 p.m.; Saturday, 10:00 a.m.-1:55 p.m.
- Library instruction is available through Reference Services.
- A Multimedia Center within the library contains materials of all types, along with equipment for viewing or listening.
- Microform readers, copy machines, and computers are included in the services provided.
- Resources of other libraries in the Charlotte area and statewide are available through inter-library loan.
- The Library also features frequent displays on subjects of special interest, such as student art.
- For more information, call Reference Services at (704)342-6884.

Auditorium
(The J. Norman Pease Auditorium)

- Pease Auditorium, located within the Learning Resources Center, seats 478. It has a theater stage, sound and lighting equipment, and accommodates classes, theater productions, concerts, lectures, and meetings.

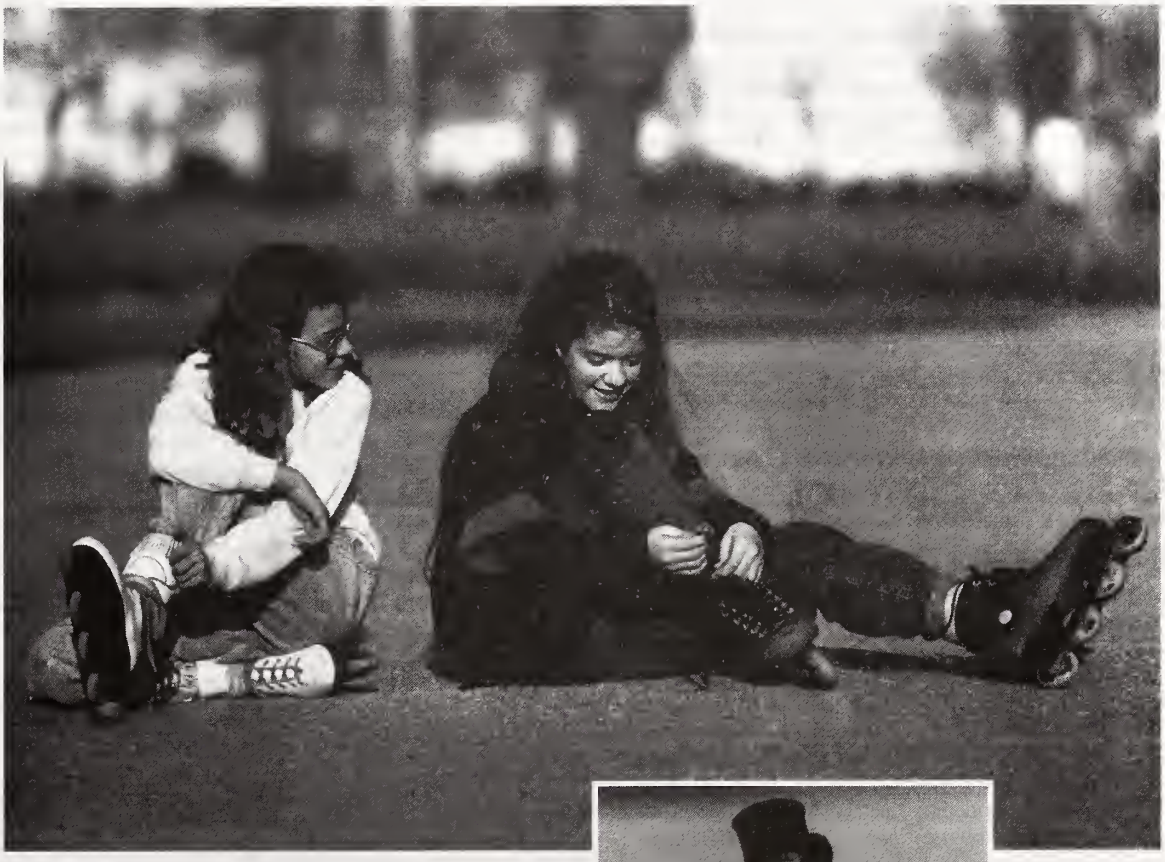
Bookstore
(The R. Powell Majors Bookstore)

- With the exception of holidays, the bookstore is open Monday through Thursday, 8:00 a.m.—7:30 p.m.; Friday, 8:00 a.m.—4:30 p.m. Extended bookstore hours are scheduled at the beginning of each quarter to accommodate peak traffic. When class is not in session, the bookstore is open 8:00 a.m.—4:30 p.m., Monday—Friday.
- The Bookstore has books, supplies, and other course-related items needed by students. Books not in stock can be special ordered. In addition, the Bookstore carries CPCC-imprinted apparel, greeting cards, magazines, candy, snacks, and various other items
- Textbooks are also available at CPCC Area Learning Centers at the beginning of each quarter. Titles available at each Center are limited to the courses taught at or near that particular Center. For Learning Center bookstore hours, please call the Center bookstore directly at the beginning of the quarter: North Center—875-8361; South Center—847-9626; West Center—342-6957.
- A copy machine for student use at 10¢ per page is located in the bookstore..
- Used books in good condition are purchased by the bookstore daily. Buyback hours are Monday - Thursday, 9:30 a.m.—6:30 p.m.; Friday, 9:30 a.m.—2:30 p.m.
- Lamination service is available at our Customer Service desk. We can laminate up to 11" x 17".
- For more information, call (704) 342-6587 or 342-6649.

Snack Shack

- A snack center is located on the first floor of the Van Every Building and is open Monday-Thursday, 7 a.m.-7 p.m.; Friday, 7 a.m.-2 p.m. Deli sandwiches, salads, soups, and a wide variety of snacks and beverages are available.

Programs and Services



Programs and Services

Compensatory Education Program

The Compensatory Education Program offers classes in math, community living skills, reading, health, social science, consumer education, and vocational education. The program is designed to assist students in developing a higher level of independence and self-sufficiency.

To be eligible for the program, students must be at least 18 years old and have documented evidence of a disability that affects learning according to North Carolina program guidelines.

Classes are scheduled quarterly at community agencies, at other community sites, and at the Central Campus whenever groups of six or more persons are interested in enrollment. Both day and evening classes can be arranged. Classes are free. 342-6033.

Cooperative Education Program

Cooperative Education is an academic program which integrates classroom studies with practical experience in business, industry, public and community agency work situations. The work experience constitutes a regular and essential element in the educational process by allowing students to apply their studies in a real work environment.

The Co-Op work experience is concurrent or alternating with academic studies, may be paid or unpaid, and awards students academic credit. For many CPCC students, co-op provides an extra means of financial support.

• Eligibility

Students are accepted from various programs of study at CPCC, provided they meet the following general criteria:

1. Be enrolled in an approved CPCC Co-Op curriculum or degree
2. Have a minimum 2.5 GPA (may be lower, depending on department),
3. Have successfully completed specific courses pre-selected by faculty,
4. Be recommended by the Co-Op faculty coordinator, and
5. Be approved by the Cooperative Education Office.

Note: Enrollment in the Co-Op Program does not guarantee placement for every student.

• Present Position – Co-Op In Place

Students can qualify to receive academic credit if they are already employed and they meet the following general criteria:

1. Students must be acquiring significant new skills or knowledge related to their academic fields of study, and/or
2. Students must be developing recently-learned skills or applying recently-learned knowledge related to their academic fields of study, and/or
3. Students must be receiving increased levels of responsibility related to their academic fields of study, and/or
4. Employers must agree to assist with evaluations of their individual student's progress.

For more information on how to participate as a Co-Op student or a Co-Op employer, contact the Cooperative Education Office, Kratt Hall 321, (704)342-6217.

Counseling Services

Professional guidance and counseling services are provided by the counseling staff in the areas of academic, personal, and career counseling; program and college orientation; academic assessment; and high school matriculation. These services are available to all prospective and current students on the Central Campus and at all of the Area Centers. Students are seen on an individual basis as well as in groups.

Personal counseling is provided for students in coping with problems that confront them both in and outside of class. These services are available in the Student Assistance Center located in the Garinger Building. Students are seen by appointments, and the counseling staff will make appropriate medical or agency referrals for students needing additional assistance. All counseling is strictly confidential.

The counseling function is an integral part of the instructional process. In that light, the counseling staff works very closely with faculty in addressing specific counseling needs of students as well as in designing and implementing courses which help students become more successful in college and beyond.

Educational Talent Search

Educational Talent Search is designed to assist potential first generation college graduates and students from low income families in completing high school and continuing their education at the post-secondary level. Educational Talent Search assists students in enrolling and completing the Adult High School Diploma Program (HDS) or General Education Development Program (GED) at CPCC and assists them in pursuit of education at the post-secondary level. Within the Student Development Group, Educational Talent Search works closely with Admissions, Testing Services, Counseling, Wider Opportunities for Women Program, Single Parents, Special Services, and Dropout Intervention.

Educational Talent Search offers personal, academic, and career counseling, and workshops on study skills, time management, career awareness, college awareness, decision making, and financial aid. Educational Talent Search's goal is to assist participants in establishing and/or reaching educational and career goals.

Educational Talent Search also will provide students with help in filling out admissions forms and financial aid applications.

For more information, call (704)342-6961 or 6393.

Distance Learning Services

The Distance Learning Services Department offers a large variety of courses through television, radio, and newspapers at various locations throughout the community. Distance Learning Services strives to offer quality courses through non-traditional delivery methods in order to meet the needs of students who find it difficult to attend classes on the Central Campus.

Through Distance Learning Services, traditional classes taught on the Central Campus are simultaneously delivered via interactive television to Area Centers, businesses, and homes. During these telecasts, viewers can interact directly with the instructors and with other students.

Telecourses offered through the Distance Learning Services are pre-recorded, videotaped classes that are shown at specific times on cablevision channels and are available anytime on request at the Area Centers. Telecourses generally require a minimum number of scheduled meetings with the instructor, and instructors are available by telephone throughout the course to answer questions.

Interactive TV courses and telecourses offered through the Distance Learning Services carry the same credits as their traditional counterparts. Course testing is conducted at the Testing Center on the Central Campus and at Area Centers. The cost of DL courses is the same as for traditional courses.

Because DL courses can reach such large audiences with

virtually no limit on class size, they are potentially the most flexible kind of instruction available.

For more information, call (704)342-6943.

First Aid Team

CPCC's first aid team for the Central Campus consists of faculty and staff volunteers. Team members are certified in Standard First Aid and CPR. Two members usually are on duty Monday through Friday, 8:30 a.m.-4 p.m.

To report medical emergencies, call 342-6444 or 6911.

High School Students at CPCC

Several programs at CPCC encourage Charlotte area high school students to remain in school and enable them to take courses at CPCC:

- ***The College Experience Program*** provides Charlotte-Mecklenburg School System high school seniors a head start on a college education, advanced vocational preparation, and personal enrichment opportunities. Approved CPCC courses may be taken by students during their senior year as a part of the school day. Courses are taken on the Central Campus and may give both high school and college credit. College Experience students are regarded by CPCC as any other college students and receive identical treatment. Grade reports are mailed to students and to the high school following the close of each quarter. Copies of students' transcripts are available through the Office of Student Records.

  For additional information, call (704)342-6576.

- ***The Concurrent Enrollment Program*** enables qualified students, who are at least 16 years old and who are enrolled in Charlotte area high schools, to take courses at CPCC for personal enrichment or high school or college credit. High school credit for courses taken through Concurrent Enrollment must be approved specifically by the high school principal. Concurrent Enrollment forms may be obtained at high schools or by request from the Concurrent Enrollment Counselor's office on the Central Campus. Students enrolling in this program must present the signed and approved Concurrent Enrollment form at the time of registration at CPCC. Concurrent Enrollment students are regarded by CPCC as any other college student and receive identical treatment. Grade reports are mailed directly to students following the close of each quarter. Copies of students' transcripts are available through the Office of Student Records.

  For Concurrent Enrollment Forms or additional information, call (704)342-6975.

- ***Pre-College Services*** works with high school dropouts, possible dropouts, and others in need of specialized additional educational programs. Pre-College Services coordinates the functions of Dropout Intervention, Concurrent Enrollment, the GED Testing Center, and Service Members Opportunity Colleges (SOC); provides entry processes and mechanisms; and coordinates dropout prevention between the College and public schools in compliance with North Carolina Senate Bill 184.

  For more information, call (704)342-6975.

Job Training Partnership Act (JTPA) Program

A scholarship program sponsored at CPCC by the Employment and Training Department of the City of Charlotte through the federal Job Training Partnership Act, this program serves individuals needing occupational skills training and wanting to get this training through a vocational or technical program at CPCC. Training must be in a curriculum that, upon completion, offers immediate full-time employment in an area of high occupational demand.

JTPA income guidelines determine eligibility. Applicants selected receive tuition, books, supplies, and other support services through JTPA and attend classes at CPCC on a full-time basis.

For further information, call (704)342-6008.

Learning Center

The Learning Center is a comprehensive laboratory providing individual assistance to students in academic areas. Services offered through the Learning Center formerly were available through the Drop-In Center, the Writing Center, and the Micromate Lab. Located on the first floor of Garinger, the Center provides individual tutoring assistance by staff and trained student tutors, computer-assisted tutorials, video-instruction, and other services to aid students. Students may receive help in a wide range of academic subjects including English, mathematics, and reading. Computers are available for students to complete writing assignments to complement the English composition program. By appointment or on a walk-in basis, the Learning Center is open Monday-Thursday from 8:00 a.m. - 8:00 p.m. and Friday from 8:00 a.m. - 4:00 p.m.

For further information, contact the Learning Center at (704)342-6474.

Multi-Skills Center

The Multi-Skills Center provides individualized instruction in general office skills to adults with disabilities that are barriers to employment. The program also emphasizes training in job readiness, human relations, and life skills. Students participate in the six-month training Monday through Friday, four hours each day. Training simulates an office atmosphere in which the instructor is both teacher and office manager.

The Multi-Skills Center serves clients referred by the Division of Vocational Rehabilitation. After the VR staff establishes eligibility through pre-screening, the Center staff determines final selection through interviews and client data. Some of the eligibility credentials for program admission that will be considered include a high school diploma or GED certification, minimum eighth-grade reading and math levels, and CPCC's North Carolina residency requirement. Referrals and selections are conducted throughout the year. Program funding, including tuition and instructional supplies, is provided by the Division of Vocational Rehabilitation and by CPCC.

For further information, call (704)342-6037.

Reading Clinic

Students can improve their reading skills with help from the Reading Clinic. Diagnostic and referral services are available, as well as tutoring for those who need basic reading instruction.

For more information, call (704)342-6486.

Service - Learning and Campus Compact Center

The Service-Learning and Campus Compact Center provides opportunities for meaningful public and community service volunteer experiences for Central Piedmont Community College stu-

dents. The Center coordinates service-learning and volunteer activities that are incorporated into both academic coursework and student activities. Service-Learning academic options include GEN 1291 Service-Learning and Leadership; GEN 1290 Service-Learning and Contemporary Issues; Service-Learning components integrated into regular academic classes; and placement provided through Cooperative Education in non-profit agencies and organizations.

Volunteer and Service-Learning opportunities are also offered through Students Outreach and Community Service (SOCS), a student organization. In addition, referral, coordination, and placement services are available for campus and community volunteer activities and to individual students interested in volunteer experience.

CPCC is a member of Campus Compact, the Project for Public and Community Service, a coalition of over 300 private and public colleges and universities established to create, enhance, and promote public service opportunities as an integral part of the educational experience. The goal of Campus Compact is to develop in students an increased respect for the responsibilities placed on them in a democratic society. CPCC's Service-Learning and Campus Compact Center serves as a clearing house for information related to campus public service and volunteer activities.

Special Services

Postsecondary Education Consortium

CPCC is a member of the Southeastern Postsecondary Education Consortium (PEC), one of four federally-funded Regional Postsecondary Education Programs for the Deaf. This program expands postsecondary opportunities to the deaf and hard of hearing students and promotes quality programs and services through innovative practices and outreach. CPCC's affiliation with PEC assures that the deaf and hard of hearing students receive the highest quality of services possible.

PEC also provides training programs for other college personnel within the NC Department of Community Colleges.

Special Services Department

The Special Services Department is a uniquely comprehensive and innovative program designed to meet the educational needs of students with disabilities. The Department provides services to students with disabilities that include, but are not limited to, the blind, deaf, hard of hearing and to students with learning disabilities, physical disabilities, traumatic head injuries, developmental disabilities and many others. A comprehensive list of all disabilities accommodated can be obtained from the Special Services Department.

• *Admissions and Campus Visit*

Students who request assistance through the Special Services Department must submit official documentation of their disability. Official documentation may be a psychological report, a vocational rehabilitation document, a high school transcript indicating the existence of disability, an insurance statement or a medical record.

Before students with special needs make a final decision to enroll at CPCC, the College recommends that they visit the Central Campus to meet the specially-assigned counselor and support personnel in the Special Services Department and also investigate arrangements such as housing, available support services, placement testing, etc.

Using the "documentation of disability," admissions documents, career interests, inventories of non-academic skills, and student interviews, the counselors develop a plan that guides the student's academic progress. This plan describes the student's eligibility and the nature of accommodations. Students are also encouraged to discuss their needs for accommodations with their instructors. Accommodations must be reasonable.

The counselor and the student will plan specific goals and determine which accommodations are necessary. In order to receive appropriate services, the student must maintain contact with the counselor throughout the quarter.

• *Counseling Services*

Counseling is a most important component in overall student success. The Special Services Counselor provides personal, social, vocational, and educational counseling. The Counselor is the main referral point for assisting instructors in making accommodations for individual student needs, as well as in determining a student's tutorial and other support service needs.

• *Individualized Education Plan*

All students who receive support services through the Department of Special Services must, in cooperation with their counselors, develop an Individualized Educational Plan. This plan helps students to design their studies at CPCC, the accomodations they require, and the skills they must develop prior to graduation. This Indivualized Education Plan is also coordinated with other plans made by Vocational Rehabilitation and/or other sponsoring agencies. This IEP also helps the College to be proactive in acquiring the necessary resources to meet the students' needs. Students who have not completed an IEP may not be able to receive any support services.

• *Interpreting Services*

One of the most critical component for any program for deaf and hard of hearing students is interpreting services. The success of a student's educational experience is greatly dependent on the quality, availability, and flexibility of interpreting services.

The College employs highly qualified, certified interpreters who are skilled in using American Sign Language. They function as a communication channel between the student and the instructor. Deaf and hard of hearing students may also request interpreting services for clubs and organizations supported by the College. Certain reasonable schedule adjustments may be necessary in order to provide interpreting services for all students who need them.

• *Parking for Students with Physical Disabilities*

There are parking spaces for the handicapped throughout CPCC's Central Campus, and information about their location is available from the Special Services Department. Students must display a handicapped parking card, obtained from the North Carolina Department of Motor Vehicles, in order to identify their vehicles properly when using these spaces.

• *Reader/Writer Service*

CPCC will provide readers for visually impaired and learning disabled students. These readers will assist students to read textbooks and take tests. Students who cannot take notes because of a hearing impairment, learning disability, physical impairment, or any other condition may receive assistance from volunteer notetakers.

Students, however, are encouraged to utilize alternative methods such as the use of tape recorders, typewriters, reading machines, adaptive technologies, instructors' and/or classmates'

notes. The emphasis will be on approaches which the students can use to complete the work independently.

• ***Tutorial Services***

Tutorial services are provided as a supplement to regular class work. Tutorial services,however, are not provided as a substitute for class prerequisites; for unsatisfactory work in prerequisite classes; or for poor class attendance. Tutorial services may be provided individually or in a group and may be requested through their counselor in the Special Services Department. Tutorial services are subject to availability of funds.

• ***Hidden Disabilities***

Students who have difficulties with their studies may be unaware of the presence of a learning disability. Students may continue to experience problems without knowing why. The Special Services Department is available to discuss and make referrals to the appropriate resources in order to assess the possibility of a hidden disability.

For more information on the Special Services Department, call (704)342-6621.

Student Career Center

The Student Career Center (SCC) is designed to assist students during their entire tenure at CPCC. Alumni are also eligible for services. The comprehensive career development program provides guidance to students trying to decide on a program, assistance in finding part-time jobs while in school, job search workshops, assistance in resume writing, interviewing and curriculum-related job referrals.

• ***Career Exploration***

The Center provides individual career counseling and testing for new or currently enrolled students who are undecided about career plans and/or a college major. Career planning courses are also offered throughout the year. For students researching a career, the Hagemeyer Learning Resources Center maintains a collection of career related materials. A computerized career guidance system is available to students and non-students alike. This self-directed system allows users to examine their values, interests and skills, and subsequently match those traits with possible career options. Appointments may be made through the SCC at (704)342-6463.

• ***Part-time Jobs***

Students interested in finding part-time employment while attending CPCC must go through a short orientation program before having access to job listings. These orientation sessions are scheduled daily.

For more information, call (704)342-6551.

• ***Full-time Employment***

For students who are approaching graduation and for all alumni, the SCC maintains resume referral files. These students can request assistance in finding full-time career positions and are eligible for on-campus interviewing, job fairs, etc. Throughout the year, the SCC conducts workshops on various job search topics.

The Employment Security Commission is dedicated to helping CPCC students and alumni locate appropriate employment on a non-fee basis by providing on-campus access to the state-wide and national job information service. All students and alumni are encouraged to take advantage of this opportunity. Labor market information, including occupational projections for the state and nine metropolitan areas, wage rates in selected occupations, and new and expanding manufacturing firms data, is also available.

Student Life

The Office of Student Life serves as a center for campus programs and activities, a resource for student organizations and community service projects, and a focal point for leadership development opportunities. Student Life provides direction, guidance, and resources for numerous on-going campus organizations, including the Student Government Association, Student Publications, United Campus Ministries, the Service-Learning Program, Intercollegiate and Intramural Athletics, and numerous other student clubs and organizations.

Activities sponsored or supported by Student Life include campus-wide festivals, lectures, workshops, conferences, field trips, information booths and displays, musicians, entertainers and movies. The Office of Student Life places priority on activities which support and enhance learning in the classroom, which provide opportunities for student leadership development, and which honor the rich diversity at CPCC and in the surrounding community.

For further information, come by the Office of Student Life in Van Every Building Room 106, or call (704)342-6584 or (704)342-6512.

The Student Life Center

The Student Life Center is located on the first floor of the Van Every Building. It offers a place for students to relax between classes, study and prepare for class, or watch a movie on the big screen. The Student Life Center is also frequently used for campus programs, lectures, and workshops. Meeting rooms are available to student clubs and organizations, and a Computer Lab is available for student use during scheduled times. The Student Government Association and Student Life Offices are located in the Student Life Center. Outside the Student Life Center, the patio with an adjoining stage is a popular location.

Student Government Association

The Student Government Association is the campus organization which represents the interests of all CPCC students. Membership is open to all currently enrolled students who are elected through the process outlined in the SGA Constitution. Its policies are in keeping with those of the CPCC Board of Trustees, the Administration, and the laws of the State of North Carolina.

The SGA serves as a resource for student clubs and organizations; coordinates two annual campus-wide festivals; sponsors blood drives, student talent shows, student appreciation days, musicians and entertainment activities on campus; and reviews the expenditure of student activities fees. The SGA President serves as a non-voting member of the Board of Trustees, and SGA members frequently serve as student representatives on College committees.

The Executive Committee of the SGA is elected each spring quarter and includes the president, vice-president, secretary, treasurer, parliamentarian, and public information officer. Applications for senator positions are accepted during spring and fall quarters, and selection is made by vote of the Executive Committee. Copies of the senator applications and the SGA Constitution are available in the SGA office, located in the Student Life Center, Van Every Building, Room 104.

• *Student Clubs and Organizations*

Student Life and the Student Government Association offer support, guidance, and resources to over forty student clubs and organizations on our campus. Some of these organizations focus on special interests, and others are directly related to curriculum programs offered at CPCC. Although some clubs have membership requirements, no organization at CPCC is allowed to discriminate on the basis of race, creed, color, gender, sexual orientation, age, handicap, religion, nationality, or political preference. A complete list of student clubs and organizations is included in the Student Handbook, which is available in the Office of Student Life or in the Welcome Center.

• *Student Publications*

Student Publications, with support from the Student Life Office, is responsible for two periodic publications, each produced by a staff of CPCC students who work under the guidance of a Student Publications advisor. The SPARK is a monthly campus newspaper which informs students of College and community activities and serves as a forum for the exchange of ideas. KEYSTONE is an annual, creative arts magazine showcasing student work in writing, photography, and art.

Staff positions for both THE SPARK and KEYSTONE include editors, writers, photographers, paste-up artists, and typesetters. Positions for THE SPARK staff are filled on an as-needed basis. New writers and photographers are encouraged to apply at any time, and editors are usually chosen from the existing staff. The KEYSTONE staff is selected each spring quarter to produce the magazine during the summer. New staff members for both publications are always welcome.

For more information, visit the Taylor Building Room 205, or call (704)342-6665.

• *Service Learning Program*

CPCC is offering students an opportunity to combine volunteer service in the local community with learning in the classroom. Through the Service-Learning Program, students experience the satisfaction of helping people less fortunate than they while gaining valuable practical experience and earning course credits. Volunteer opportunities include work in areas of youth programs, public schools, homelessness, literacy projects, hunger programs, senior services, and environmental protection.

• *Lost and Found*

A lost and found service is located in the Student Life Center (Van Every, 1st floor). Any item found on the Central Campus should be brought to this office promptly where it will be logged in. If no one claims the item within that quarter, it is donated to the Drama Department.

To inquire about lost and found items, call (704)342-6584.

Student Support Services

Student Support Services is an academic support program designed to help students become successful in college by setting and achieving educational and career goals. It develops students to their fullest potential.

One of two federally-funded programs at CPCC, Student Support Services works with students who are:

- first generation college students (that means that neither parent holds a Bachelor's Degree),
- low income (the student meets the current requirements for low income families), or
- disabled— or has a learning disability.

To be accepted into the program, the student must:

- be enrolled or registered at CPCC in a curriculum program,
- complete a Student Support Services application, and
- provide income verification and complete the Federal Financial Aid application.

Students can receive help with:

- Educational Counseling: The Student Support Services staff will help students establish their academic and career goals and help with determining their financial needs.
- Tutoring: Tutors are available in many subjects, including English, reading, and mathematics.
- College Survival Skills: Special seminars designed to improve study habits, test-taking skills, time management and coping skills are available to help students succeed in college.
- Bridges to Success—The College Transfer Initiative: College transfer students can receive individualized guidance on how to complete the transfer from a two-year college to a four-year college. Students receive help with college admission requirements, financial aid resources, as well as tours of area college campuses.
- Adults Returning To Education (ARTE): First-time college students can ease their adjustment to college life with a special transition program. Students learn to juggle college life by taking special study skills workshops and college courses.
- Help is also available in filling out admissions forms and financial aid applications.

For more information, call (704)342-6394.

Wider Opportunities for Women

The Wider Opportunities for Women program provides eligible students with assistance for tuition, books and supplies, and child care. Awards are based on the availability of funds. To qualify, a student must be one of the following:

Single Parent:
- unmarried or legally separated from a spouse
- have custody or joint custody of minor child(ren)

Homemaker:
- An adult whose primary responsibility is the care of the home and family, and who has diminished marketable skills

Displaced Homemaker:
- A homemaker who, because of death, divorce, separation, or a disabled spouse, must prepare for paid employment

Seeking Non-Traditional Job Training:
- An adult who wishes to seek employment in an occupation which is traditionally stereotyped by sex

All students applying for this program must meet the following qualifications:

- declare a curriculum program at CPCC with either a technology or vocational program code, (Students enrolled in the college transfer program do not qualify for assistance from the WOW program.)
- complete CPCC's student financial aid application process,
- maintain at least a 2.0 (C) grade point average while enrolled at CPCC.

For more information, call (704)342-6532.

Academic Calendar

"It Works For Me!"

	S	M	T	W	T	F	S
					1	2	3
Sept '94	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	
							1
Oct	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					
			1	2	3	4	5
Nov	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30			
					1	2	3
Dec	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	31
	1	2	3	4	5	6	7
Jan '95	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31				
				1	2	3	4
Feb	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28				
				1	2	3	4
Mar	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30	31	
							1
Apr	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30						
		1	2	3	4	5	6
May	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31			
					1	2	3
June	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	
							1
July	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					
			1	2	3	4	5
Aug	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	31		
						1	2
Sept	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30

Fall Quarter 1994	Labor Day.....Mon, Sept 5
	Quarter Begins.....Tues, Sept 6
	Quarter Ends.....Tues, Nov 22
	Holiday.....Thurs, Nov. 24 -Sun, Nov 27
Winter Quarter 1994-95	Quarter Begins..... Wed, Nov 30
	Holiday.....Wed, Dec 21-Sun, Jan 1
	Classes Resume.....Mon, Jan 2
	Martin Luther King Holiday.....Mon, Jan 16
	Quarter Ends.....Tues, Feb 28
Spring Quarter 1995	Quarter Begins.....Mon, Mar 6
	Holiday.....Fri, Apr 14 -Mon, Apr 17
	Quarter Ends.....Wed, May 24
Summer Quarter 1995	Quarter Begins.....Wed, June 7
	Independence Day Holiday.....Tues, July 4
	Quarter Ends.....Thurs, Aug 10
First Short Session:	Classes Begin.....Wed, June 7
	Classes End.....Mon, July 10
Second Short Session:	Classes Begin.....Tues, July 11
	Classes End.....Thurs, Aug 10
Fall Quarter 1995	Labor Day Holiday.....Mon, Sept 4
	Quarter Begins.....Tues, Sept 5
	Quarter Ends.....Tues, Nov 21
	Holiday.....Thurs, Nov 23 -Sun, Nov 26
Winter Quarter 1995-96	Quarter Begins.....Tues, Nov 28
	Holiday.....Mon, Dec 18 -Sun, Dec 31
	New Year's Day Holiday.....Mon, Jan 1
	Martin Luther King Holiday.....Mon, Jan 15
	Quarter Ends.....Thurs, Feb 29
Spring Quarter 1996	Quarter Begins.....Wed, Mar 6
	Holiday.....Fri, Apr 5 -Mon, Apr 8
	Quarter Ends.....Fri, May 24
	Memorial Day Holiday.....Mon, May 27

CPCC is closed on holidays listed above.

Advisement Day and Registration dates for each quarter will be announced in the CPCC Class Schedule.

For additional information, call the CPCC Welcome Center -(704)/342-6719.

	S	M	T	W	T	F	S
	1	2	3	4	5	6	7
Oct	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31				
				1	2	3	4
Nov	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30		

	S	M	T	W	T	F	S
						1	2
Dec	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	31						
		1	2	3	4	5	6
Jan '96	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31			

Summer Quarter 1996	Quarter Begins	Tues, June 11
	Independence Day Holiday	Thurs, July 4 - Sun, July 7
	Quarter Ends	Thur, Aug 15
First Short Session:	Classes Begin	Tues, June 11
	Classes End	Mon, July 15
Second Short Session:	Classes Begin	Tues, July 16
	Classes End	Thurs, Aug 15
Fall Quarter 1996	Labor Day Holiday	Mon, Sept 2
	Quarter Begins	Tues, Sept 10
	Quarter Ends	Tues, Nov 26
	Holiday	Thurs, Nov 28 - Fri, Nov 29
Winter Quarter 1996-97	Quarter Begins	Mon, Dec 2
	Holiday	Mon, Dec 23 - Tues, Dec 31
	New Year's Day Holiday	Wed, Jan 1
	Martin Luther King Holiday	Mon, Jan 20
	Quarter Ends	Fri, Feb 28
Spring Quarter 1997	Quarter Begins	Mon, Mar 10
	Holidays	Fri, Mar 28 - Mon, Mar 31
	Quarter Ends	Wed, May 28
Summer Quarter 1997	Quarter Begins	Tues, June 10
	Independence Day Holiday	Fri, July 4 - Sun, July 6
	Quarter Ends	Wed, Aug 13
First Short Session:	Classes Begin	Tues, June 10
	Classes End	Fri, July 11
Second Short Session:	Classes Begin	Mon, July 14
	Classes End	Wed, Aug 13
Fall Quarter 1997	Labor Day Holiday	Mon, Sept 1
	Quarter Begins	Tues, Sept 9
	Holidays	Thurs, Nov 27 - Sun, Nov 30
	Quarter Ends	Tues, Nov 25
Winter Quarter 1997 - 1998	Quarter Begins	Mon, Dec 1
	Holidays	Mon, Dec 22 - Wed, Dec 31
	New Year's Day Holiday	Thurs, Jan 1 - Sun, Jan 4
	Martin Luther King Holiday	Mon, Jan 19
	Quarter Ends	Tues, Mar 3

	S	M	T	W	T	F	S
June							1
	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30						
July		1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31			
Aug					1	2	3
	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	31
Sept	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
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	22	23	24	25	26	27	28
	29	30					
Oct			1	2	3	4	5
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	27	28	29	30	31		
Nov						1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
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Dec	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31				
Jan '97				1	2	3	4
	5	6	7	8	9	10	11
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	26	27	28	29	30	31	
Feb							1
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	16	17	18	19	20	21	22
	23	24	25	26	27	28	
Mar							1
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	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					
April			1	2	3	4	5
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	20	21	22	23	24	25	26
	27	28	29	30			
May					1	2	3
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	18	19	20	21	22	23	24
	25	26	27	28	29	30	31
June	1	2	3	4	5	6	7
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	29	30					

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Mar						1	2
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	31						

	S	M	T	W	T	F	S
April		1	2	3	4	5	6
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May				1	2	3	4
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Admissions

ADMISSIONS QUICK REFERENCE

Adult Basic Literacy Education
ABLE: For students who cannot read, write or compute at an adult level
(704) 342-6716, Sloan – Suite J. See F - page 25; also see page 44.

Adult Basic Education
(ABE: Grades 1-9)
(704) 342-6717, Sloan – Suite J. See E - page 25; also see page 44.

Compensatory Education
For students with special needs.
(704) 342-6033, Sloan 238. See page 14.

Degree/Diploma/Certificate Programs, Career Undecided Students, and Program Changes
(704) 342-6719, Welcome Center, Garinger Building 2nd Floor, or any Area Center. Program Changes are processed by the Admissions Center, Central Campus, (704) 342-6904. See A, B, or C -pages 25 - 26.

Educational Talent Search
(704) 342-6393, 7th Street Center 109. See page 14.

Student Support Services
(704) 342-6394, 7th Street Center 109E. See page 18.

Financial Aid
(704) 342-6942, Garinger 206. See pages 29-33.

High School Programs
- College Experience (704) 342-6975, Terrell 513. See page 15.
- Completion/Diploma (Grades 10-12) - (704) 342-6778, Garinger 219. See D 1 - page 25; also see pages 44-45
- Concurrent Enrollment - (704) 342-6975, Terrell 512. See page 15.
- G.E.D. - 342-6949, Terrell 511 - page 25; also see page 49.

Human Resources Development
- Bank Teller Training -(704) 342-6969, Sloan 264. See page 257.
- Self-Directed Job Search - (704) 342-6969, Sloan 263. See page 257.

International Students Admissions
- F-1 Visas - (704) 342-6456, Terrell 223. See I, page26.
- B-2 Visas -(704) 342-6456, Terrell 223. See I, page 26.
- Legal Residents with Permanent Visas -(704) 342-6456, Terrell 223. See I, page 26.
- Limited English Proficiency -(704) 342-6305, ESL Lab, Van Every 301. See page 25.

J.T.P.A.
Job Training Partnership Act - (704) 342-6008, Terrell 516. See page 15.

Miscellaneous Special Interest Courses
See H - page 26.

Multi-Skills Center
For students with special needs-(704) 342-6037, Taylor 102. See page 15.

Special Services
Hearing, Learning, Physical, Sight Disabilities
(704)342-6621, Terrell 219. See page 16.

Veteran and Military Affairs
342-6942, Garinger 206. See page 33.

Wider Opportunities for Women
Single Parents, Non-Traditional Employment, Displaced Homemakers - (704) 342-6532, 7th Street Center 109C. See page 18.

Tours of Central Campus for Prospective Students

The College encourages individuals and groups to visit the Central Campus for a tour with a guide from the Welcome Center. When possible, faculty will explain their instructional areas and laboratories in response to special interests indicated by tour participants at the time the tour was scheduled. (704) 342-6719 to arrange a tour.

Admissions

Central Piedmont Community College follows an "open door" policy which welcomes all students without regard to color, creed, handicap, race, national origin, or sex. Admission to the College, however, does not mean that students will be admitted immediately to a program with specified admissions requirements.

Steps in admissions vary, depending on what a student plans to accomplish at CPCC. **Students are encouraged to contact the college early, in order to complete the steps outlined here *before* the registration period begins.**. Questions should be directed to the Welcome Center, Garinger Building 2nd Floor, (704) 342-6719 (Mailing address:

CPCC, P.O. Box 35009, Charlotte, NC 28235-5009).

A. Students who plan to enter a degree, diploma, or certificate program need to complete these steps ***before*** registration begins:

1. Students should ***complete a CPCC Admissions Form,*** which is available at the Welcome Center, the Admissions Center, at any Area Center, or by mail. On the back of the Admissions Form, students should indicate the program they are planning to enter. **NOTE:** Students who plan to transfer to a four-year college or university after one or two years at CPCC should indicate either the Associate in Arts, Associate in Fine Arts, or Associate in Science Degree program.
2. Students who are planning to ***apply for financial aid*** should begin the process now. They should complete and mail the Free Application for Federal Student Aid in the envelope provided to the federal government's Processing Center. (Applications are available from the Financial Aid Office, Welcome Center, Area Centers, and in all local high school guidance counseling offices.) Next they should contact the Financial Aid Department on the Central Campus for detailed instructions to complete the application process.
3. Students should ***have official transcripts mailed*** from each high school and/or college previously attended to: **Admissions, CPCC, PO Box 35009, Charlotte, NC 28235-5009.** The name the student is currently using and the social security number should appear on each transcript. **Note:** Students who have an associate or a higher

degree from an accredited college or university are not required to have high school transcripts mailed.

4. Students should ***have college skills assessed*** as required for the degree, diploma, or certificate program the student plans to enter. Appointments for these assessments are made at the Admissions Center (Garinger Building, Room 258), or at the Area Centers, with the exception of most Health Technology programs, where appointments are made by the Program counselor. Students who mail in their Admissions Forms will receive mailed instructions for scheduling their appointments. Students who complete their Admissions Forms at the Welcome Center or at the Admissions Center will receive instructions about assessment appointments at that time.
5. Students should ***meet with the program counselor*** at the specified time for orientation to the College, an overview of the program, assessment results, transfer of credit evaluation, and the recommended list of courses for which to register during their first quarter at CPCC. Some meetings are group appointments for students entering the same programs.
6. Students should ***register for courses.***

B. Students who want to change their programs need to complete the following steps ***before*** registration begins:

1. Get a Change of Program Form at the Admissions Center (Garinger Building 2nd Floor) or phone (704) 342-6904 to start processing.
2. Complete a new CPCC Admissions Form (if necessary).
3. Take additional placement tests if required for the new program.
4. Meet with the Program Counselor at the specified time. Some meetings will be group appointments for students entering the same program. NOTE: Your program will not be officially changed until you complete steps 1 to 4.
5. Register for courses in the new program.

C. Students who need career/life planning assistance before selecting a program:

1. Get an Admissions Form from the Welcome Center, the Admissions Center, one of the Learning Centers, or request that one be mailed. This should be done early and ***before*** the registration period. Indicate "Undecided," instead of a program, on the back of the Admissions Form.
2. Follow steps A2 and A3 above.
3. Meet with the Career/Life Planning Counselor as scheduled. Further instructions will be received about how to proceed at this time. If additional information is needed, call the Admissions Center (704) 342-6904.
4. Register after seeing a Program Counselor.

D. Students who plan to complete high school (grades 10-12).
CPCC offers the Adult High School Diploma Program (HSD) and the Tests of General Educational Development (GED):

1. The ***Adult High School Diploma (HSD)*** Program leads to an earned diploma granted by the Charlotte/ Mecklenburg Board of Education. For graduation, the Board requires four units of English, three units of mathematics, one unit of government and economics, one unit of United States history, one unit of world cultures/history, one unit of biology, one unit of physical science, one unit of earth science/ecology, seven electives, and a passing score on the North Carolina Competency Test. Students who have not completed a required unit must enroll for at least one quarter of study in the appropriate HSD course for that subject. The unit toward graduation is earned in that subject by passing the examination at the end of the course. The North Carolina Competency Test is administered on a regular basis. There is no charge for these classes or for the Competency Test.
   For more information, call (704)342-6864.
2. ***The Tests of General Educational Development (GED).*** GED Testing offers another opportunity for students who have not completed high school. A High School Diploma Equivalency is awarded by the North Carolina Department of Community Colleges after a student passes five individual tests in writing skills (includes a written essay requirement), social studies, science, literature and arts, and mathematics. A pre-test is used to evaluate performance levels and instructional needs before testing. GED classes are available on the Central Campus and at several off-Campus locations. The off-Campus classes are self-paced and allow students to progress at their own learning rates. There is no charge for pre-testing or GED classes; there is a $7.50 fee for final GED testing.
   For more information, call (704)342-6949.

E. Students who plan to complete grades 1-9: Adult Basic Education (ABE) is available for students whose schooling stopped short of the ninth grade. ABE provides instruction in basic reading and mathematics. Upon completion of the ABE program, students may enter the Adult High School Diploma Program. There is no charge for these classes.
For more information, call (704)342-6716.

F. Adult students who plan to learn basic skills in reading and mathematics:
The ***Adult Basic Literacy Education (ABLE)*** program is located at community sites. This program offers a new approach for adults who cannot read, write, or calculate at an adult level. The program combines the use of microcomputers, video systems, audio tapes, specialized programming, and tutors to teach adults reading and mathematics skills. Instructors guide students through program materials and help with the use of equipment. There is no charge for ABLE instruction.
For more information, call (704) 342-6716.

English as a Second Language is a program offering courses which enable students to master English as a second language. Students study the customs and traditions of American culture while learning the language. Academic and/or vocational courses may be taken when the student's language proficiency allows. Consult course descriptions with ESL or LEP prefixes.
For more information call (704) 342-6506 or 6456.

G. Students currently enrolled in Charlotte area high schools who want to take courses at CPCC:
For information about the College Experience Program, the

Concurrent Enrollment Program, and the Drop-Out Intervention Program, see Admissions Quick Reference on page 24.

H. Students who do not plan to enter a degree, diploma, or certificate program at CPCC and who want to take courses of special interest:

Course descriptions in this catalog list the prerequisites (requirements) that must be met before registering for a course. Please note that ENG 1504 (English Composition I) and certain mathematics courses require placement assessment before registration. In these cases, contact the Admissions Center (Garinger 2nd Floor),to schedule an assessment appointment.

For more information, call (704) 342-6904.

I. International Students: Legal residents with permanent visas : Alien Registration Card holders are admitted to Central Piedmont Community College in the same manner as native citizens of the United States of America. Legal residents who need English as a Second Language are referred to the ESL Lab, (Van Every 301), for placement tests and assistance.

International visitors holding B-2 or other visas may enroll for classes of their choice as long as they hold a valid visa. For more information, call (704) 342-6305.

International students on F-1 Visas: These students must have a TOEFL (Test of English as a Foreign Language) score of at least 500 before entering a degree or diploma program. When the TOEFL score is below 500, the student is required to take English as a Second Language (ESL) Courses until retesting at CPCC establishes the required proficiency level.

Any international student (non-immigrant) who is admitted to CPCC under an F-1 student visa is urged to purchase medical insurance prior to registration each quarter.

Applications for international student enrollment at CPCC are available in the Office of International Student Admissions, Terrell 223, (704) 342-6456. A non-refundable, $25 processing fee will be charged for all completed foreign student applications.

J. Reasonable Accommodations: Reasonable accommodations will be made for disabled students who feel they need assistance and/or accommodations in the admissions and enrollment process or in the educational environment or requirements of a course, program, activity, or service.

Central Piedmont Community College does not discriminate against qualified individuals with disabilities. Moreover, as required by law, the College will provide reasonable accommodations to the known disabilities of otherwise qualified applicants for admission or students in all education programs, activities, services, and practices, including application procedures, admissions, student assignment, course assignment, the awarding of degrees, discipline, and dismissal. Educational opportunities will not be denied to an otherwise qualified applicant or student because of his or her disability or because of the need to make reasonable accommodation(s) for the physical or mental impairment(s) of such individuals.

Disabled applicants or students who feel they need such assistance should contact the Office of the Dean of Student Development, Terrell Building, Room 217, (704)342-6888. A copy of the College's policy concerning Provision of Reasonable Accommodation for Education Programs, Activities and Other Services is also available in the Office of the Dean of Student Development upon request.

Students may also contact the Director of Affirmative Action and Compliance, Terrell 522, (704)342-6424, if they have any questions or concerns about reasonable accommodations.

Registration

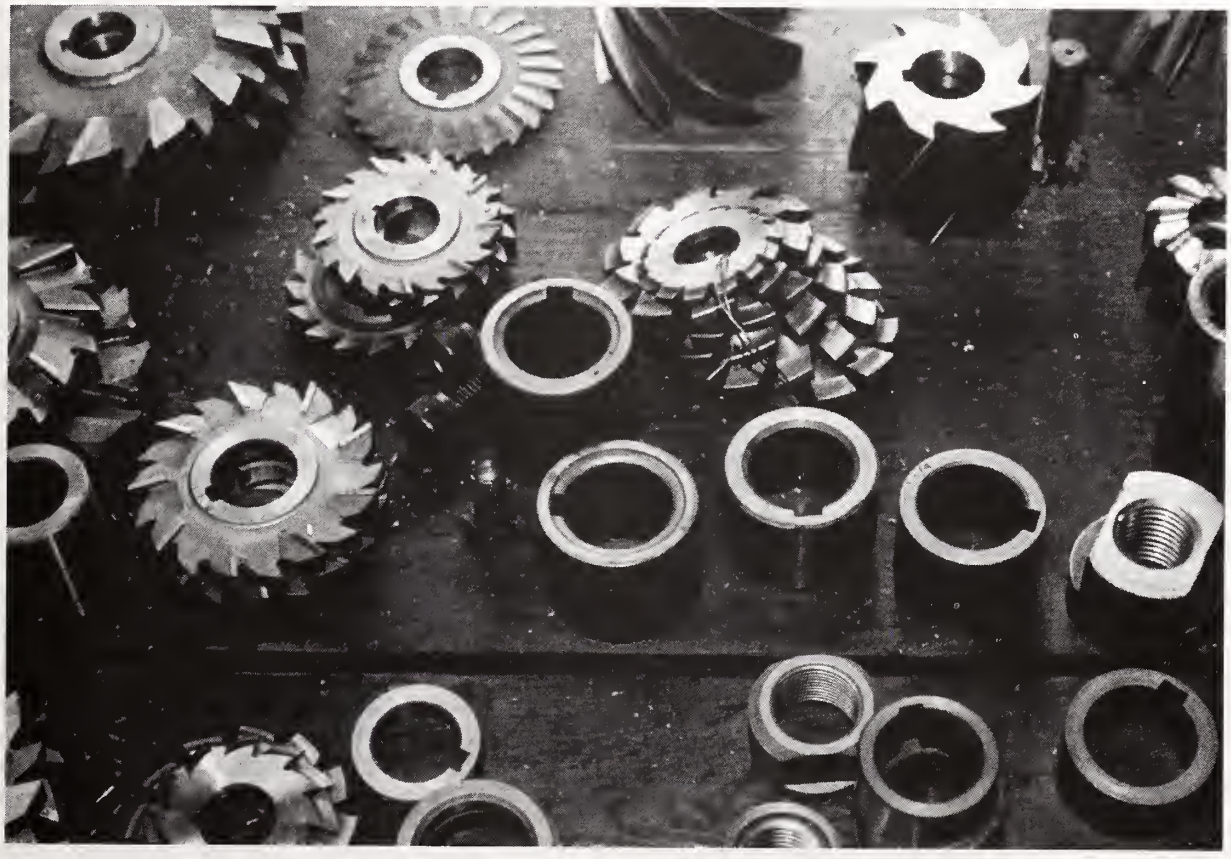
The College year consists of four quarters: fall, winter, and spring quarters (each 11 weeks), and summer quarter (9 weeks). Summer quarter also includes two short sessions (each four and one-fourth weeks), with a limited selection of classes. Though shorter, summer classes carry the same course credit as those in other quarters. (See Academic Calendar.)

Students entering a degree, diploma, or certificate program must complete the admissions process prior to registration.

Returning CPCC students or new students who have completed the admissions process may register from a touch-tone telephone. Those wishing to register by telephone will find instructions in the Class Schedule. In-person registration for new and returning students is offered at four locations: Central Campus, and at the North, South, and West Area Centers.

Students are encouraged to register as early as possible to avoid the heavy traffic of final registration and to ensure that they get a schedule that best meets their needs.

Tuition and Fees



"It Works For Me!"

Tuition and Fees

(Subject to change without notice)

Tuition and the Student Publications/Activity Fee must be paid by mail or in person within 48 hours after registration with cash, check, or credit card (MasterCard or Visa).

***In-State students** registering for curriculum courses:*

- 14 quarter hours or more: $185.50 per quarter — Tuition 5.00 per quarter — Student Publications/Activity Fee*
- 9-13 quarter hours: $13.25 per quarter hour — Tuition 5.00 per quarter — Student Publications/Activity Fee*
- 8 quarter hours or less: $13.25 per quarter hour — Tuition 3.00 per quarter — Student Publications/Activity Fee*

***In-State students** registering for courses and seminars offered through Corporate and Continuing Education:*

- State funded occupational extension classes are $35.00 per course. Additional fees may be charged to cover the cost of special software or equipment.
- A fixed charge per scheduled hour of instruction will apply to Occupational Extension classes taken more than twice within a 5 year period. Students are primarily responsible for monitoring course repetitions.
- Tuition for self-supporting classes will vary with course costs.
- $1.00 Student Publications/Activity Fee

***In-State students** registering for high school diploma or G.E.D. courses:*

- No tuition or fee

***Out-of-State students** registering for curriculum courses:*

- 14 quarter hours or more: $1505.00 per quarter — Tuition 5.00 per quarter — Student Publications/Activity Fee*
- 9-13 quarter hours: $107.50 per quarter hour — Tuition 5.00 per quarter — Student Publications/Activity Fee*
- 8 quarter hours or less: $107.50 per quarter hour — Tuition 3.00 per quarter — Student Publications/Activity Fee*

***Out-of-State students** registering for courses and seminars offered through Corporate and Continuing Education*

- Same as In-State students

***Out-of-State students** registering for high school diploma or G.E.D. courses*

- Same as In-State students

Student Publications/Activity Fee

The Student Publications/Activity Fee is used to support the Student Life Center and many co-curricular and extra-curricular programs. Among these are student government, student publications, clubs and organizations, intramural and intercollegiate athletics, educational activities, speakers and entertainers of various kinds.

Lab Fees

All courses that contain lab hour credits will charge a lab fee of $4.00 per lab hour credit with a maximum quarterly fee of $16.00. Lab fees will be used to provide supplies and equipment in the respective program.

Tuition Refund Policy

The Department of Community Colleges proposes the following refund policy:

Curriculum

- All tuition will be systematically refunded by the College for any class canceled by the College.
- 100% of tuition paid will be refunded by the College if the student officially withdraws from the class prior to the first day of the academic quarter.
- 75% of tuition paid will be refunded by the College if the student officially withdraws from the class on or after the first day of the academic quarter through the 20% point of the quarter.
- No tuition will be refunded by the College for Self-Supporting classes.

Corporate/Continuing Education (Occupational Extensions)

- All tuition will be systematically refunded by the College for any class canceled by the College.
- 100% of tuition paid will be refunded by the College if the student officially withdraws from the class prior to the first day of the class.
- 75% of tuition paid will be refunded by the College if the student officially withdraws from the class on or after the first day of the class through the 20% point of the class.
- No tuition will be refunded by the College for Self-Supporting and Community Services classes.

This policy is subject to approval or change by the Department of Community Colleges.

Financial Aid Recipients

- The Department of Education guidelines for financial aid recipients may differ from the institutional refund policy. This is especially the case with recipients who are attending CPCC for the first time. Please request the refund policy from the Financial Aid office.

Student Insurance (Optional)

Three kinds of insurance coverage are available to students through CPCC:

Accident Medical Plan

This plan insures students against loss resulting from accidental bodily injury sustained while at the College or while participating in or attending an activity exclusively organized, sponsored, and solely supervised by the College and College employees, including travel directly to or from such activity in a vehicle furnished by the College.

The plan pays up to $1500 for each accident which may include the costs of medical and surgical treatment, hospital confinement, and the services of a trained nurse during one year from the date of the accident.

Students wishing to have this coverage check the "Yes" box on their Registration Form. Coverage begins when tuition and the $1.50 insurance fee are paid at registration. Coverage stops at the end of the quarter

Medical Hospitalization Group Plan

This plan is available to students enrolled for six or more credit hours. It provides accidental death benefits, maternity benefits, semi-private room, and major medical coverage up to $3500.

Benefits will be paid in addition to other insurance coverage. The cost is $44 per quarter or $169 per year. Spouses and unmarried children may be covered for an addtional charge. Coverage begins the day that payment is received by the company.

Student Dental Plan

This plan provides substantial savings on dental care, including orthodontics, for all full-time, part-time, and continuing education students and their families. The plan encourages regular preventive care by including a free cleaning each year for every family member. And students start saving money on dental care right away because the plan is effective immediately.

Applications and information are available in the Student Life Center, Welcome Center, Bookstore, main and branch campus registration areas or call American Family Benefits directly at (704) 376-2824.

Residence Status

A legal resident of North Carolina is one who has domicile in the State. It is important that all applicants for admission and all enrolled students know their residence status for tuition payment and understand the regulations governing status. The "Student Residency Manual" is available for review in the Registration Center. The following regulations cover most situations:

1. Persons 18 years of age or older are not deemed eligible for the lower tuition rate unless they have maintained legal residence in North Carolina for at least the twelve months preceding enrollment in an institution of higher education in this State.
2. The legal residence of a person under 18 years of age at the time of enrollment in an institution of higher education in this State is that of the student's parents, surviving parent or legal guardian. If the parents are divorced or legally separated, the legal residence of the minor is that of the parent to whom legal custody has been awarded.
3. The residence status of all students is determined at the time of their enrollment in an institution of higher education in North Carolina and may not thereafter be changed except: (a) in the case of a non-resident minor student at the time of enrollment whose parents have subsequently established legal residence in North Carolina; (b) in the case of a resident who abandons legal residence in North Carolina; and (c) in the case of a non-resident student at the time of enrollment who has established legal residence in North Carolina and has maintained that status for the preceding twelve months. PLEASE NOTE: Students previously classified as non-residents who feel they now meet the residence requirements must contact the Director of Registration for approval and for completion of the proper change of residence form.
4. A person holding a Student F-1 Visa cannot be classified as a resident for tuition purposes.
5. Foreign nationals holding an Alien Registration Card (Form I-551) and other foreign non-immigrants holding work permits (Visas A, G, I, K, N) may be eligible for in-state tuition twelve months or more after the issue date of the document. In these cases, they must provide documenting evidence that they have lived in North Carolina for at least 12 consecut ive months.
6. Ownership of property in or payment of taxes to the State of North Carolina will not, in itself, qualify a person for the in-state tuition.
7. Any students or prospective students who have reason to believe they have been classified incorrectly for tuition purposes must bear the responsibility for securing a ruling by stating the case in writing to the Director of Registration. Written request for a ruling shall be reviewed by the Director of Registration, who may contact the student to secure additional information. Upon receipt of this ruling (if unfavorable), the student may appeal to the College Appeals Committee by making written request. A final residentiary decision by the College may be appealed to the State Residence Committee.

Student Financial Aid

Overview

Students who are enrolled or accepted for enrollment in at least a six-month program leading to a certificate, diploma, or degree may apply for financial assistance. Students must complete enrollment procedures and have a high school transcript on file in the Office of Student Records. Individuals who are not U.S. Citizens or who are non-permanent residents are generally ineligible to receive financial aid. Contact the Financial Aid Office to determine eligibility.

In considering an applicant for aid, the student's entire living expenses are taken into account, in addition to tuition and fees. Students taking fewer than 12 credit hours, but at least 1 credit hour, may receive aid reduced in proportion to their academic load.

Awards generally range from $400 to $4000 per year and come from one or more of the following sources: Federal Pell Grants, the Federal Work-Study Program, Local Scholarships, North Carolina Student Incentive Grants, and Federal Supplemental Educational Opportunity Grants (FSEOG). Federal Pell Grants and employment through the Federal Work-Study Program comprise the majority of aid awarded to students.

Because Central Piedmont Community College defines its academic year as 12 months, financial aid awards are made on that basis. Students are encouraged (in some cases required) to attend consecutive quarters until the program of study is completed, in order to remain in proper sequence. The summer quarter is a full quarter with no significant reduction in course offerings and is not regarded to be "optional," as summer sessions often are at traditional institutions.

The initial deadline for consideration is April 1. Late applications will be awarded accordingly. For more detailed information about the types of aid available, about eligibility, and about application procedures and policies, refer to the Student Guide, produced by the Department of Education, and to the Central Piedmont Community College Student Financial Aid handbook, available from the Financial Aid Office upon request, or call (704)342-6942.

• Satisfactory Progress Standard

To receive Title IV financial aid funds, students must meet the U.S. Office of Education's statutory requirements of satisfactory progress. This definition reads: "Beginning with the 1987-88 award year, in order to become and remain eligible to receive Title IV funds, students must be making satisfactory progress."

To measure the student's progress in the program accurately, the policy must have a **quantitative** measure of progress. To **quantify** academic progress, the policy must set a maximum time-frame in which a student is expected to finish the program.

Students may only receive up to 12 cumulative quarters of aid (equivalent to three years).

The policy also includes a **qualitative** measure of the student's progress, such as a grade point average. Satisfactory academic progress is measured by maintaining the following GPAs:

Two-Year Degree Program Category

0-30	credit hours attempted	1.50 GPA
31-60	credit hours attempted	1.75 GPA
61-75	credit hours attempted	1.90 GPA
76 +	credit hours attempted	2.00 GPA

One-Year Degree Program Category

0-15	credit hours attempted	1.50 GPA
16-30	credit hours attempted	1.75 GPA
31-45	credit hours attempted	1.90 GPA
46 +	credit hours attempted	2.00 GPA

In order to provide a fair and equitable opportunity for individuals to adjust to specific academic requirements, the Office of Financial Aid will provide a three-step process prior to denying financial assistance. Additionally, students will be able to appeal any decision made by the Office of Financial Aid.

• Title IV Financial Aid Recipients

are governed by three requirements:

1. They must maintain a quarter grade point average of 2.0 (C); (twelve hours is a full-time load per quarter)
2. They must be enrolled in an approved program
3. They may receive only up to 12 cumulative quarters of aid (equivalent to three years).

The records of Title IV financial aid recipients will be reviewed for satisfactory progress at the end of each quarter to determine if they are maintaining the grade point requirements set forth in this policy. Grades of A, B, C, D, F, and S (satisfactory) will be counted in the Financial Aid GPA calculation. Withdrawals carry no point value but are computed as part of the Financial Aid GPA. Grades of Audits and Credit by Examination are not computed in the Financial Aid GPA. During any quarter in which students receive Title IV funds and then decide to audit or receive credit by examination, they may be liable to repay those funds.

• Satisfactory Progress Policy Procedure

Step 1: Warning

Students who fail to meet the requirements set forth under the Satisfactory Progress Policy definition will be warned of this progress and officially notified of their status.

Step 2: Probation

If students fail to bring their status up to the requirements set forth in the Satisfactory Progress Policy definition within the next quarter, consecutive or otherwise, they will immediately be placed on probation and notified of their status.

Step 3: Suspension of Financial Aid

If students fail to meet the requirements set forth in the Satisfactory Progress Policy definition after completing three quarters, consecutive or otherwise, their financial aid will be suspended.

• Appeal Process

Students who have extenuating circumstances, such as hospitalization of the student or the death of an immediate family member, and fail meet the definition of the Satisfactory Progress Policy and/or other related policies may appeal to the Financial Aid Committee for reinstatement of financial aid. The appeal must be in writing and will be voted on at a regularly scheduled meeting of the Committee. Documentation must be included with the appeal. The decision by the Financial Aid Committee is final.

• Reinstatement of Aid After Suspension

If a student attends one quarter of classes, carrying 1 or more credit hours while suspended from financial aid and makes satisfactory progress according to the definition, terms and conditions set forth in this policy, a Federal Pell Grant will automatically be reinstated at the end of that quarter. Other types of assistance will be reinstated based on available funds. Whether approved by the Committee or approved after one quarter of satisfactory progress, the student's financial aid status will remain probationary.

This policy has been reviewed by the U.S. Office of Education. It is subject to change based on situational and federal guidelines. If additional information regarding this policy is needed, contact the Financial Aid Office.

• First Degree Waiver

Students wishing to apply for financial aid after the completion of a post-secondary degree must request a first degree waiver.

Contact the Financial Aid Office for detailed instructions.

• Verification

Institutions participating in Title IV funding for financial aid are required by federal mandate (Higher Educational Amendments of 1986) to check some of the information that students provide on their applications. The CPCC Financial Aid Office completes 100% verification of all applicants. Students must provide copies of student/parent federal tax return and/or documentation of other information. Additional supporting information may be required.

More information about this requirement is available from the Financial Aid Office upon request.

Financial Aid: Sources and Guidelines

Note: Only students who are taking classes required for declared program completion are eligible for financial aid.

Federal Pell Grant

The Federal Pell Grant program provides federal funds for qualified students who enroll in an eligible program which is at least six months long. The grant, which does not have to be repaid, is based on schedules and formulae approved annually by Congress.

Students with Bachelor's degrees are not eligible.

Federal Work-Study

A major form of financial aid available to students consists of employment through the College under the Federal Work-Study program.

A schedule is arranged around students' classes so that students work part time either on the Central Campus or at Area Centers. The hourly rate is equal to at least the federal minimum wage, and the average number of hours that students may work must not exceed 20 hours per week.

Federal Supplemental Educational Opportunity Grant (FSEOG)

The Federal Supplementary Educational Opportunity Grant program provides aid to the neediest students with demonstrated financial need, with priority awarded to Federal Pell eligible recipients

The amount of the grant is based on the applicant's need and on the availability of funds at the College. These grants do not have to be repaid.

Students with Bachelor's degrees are not eligible.

North Carolina Incentive Grant

Legal residents of North Carolina who are accepted for enrollment or who are enrolled full time in good standing in an undergraduate program of study in an eligible college, university, technical, or vocational school in North Carolina may apply for a Student Incentive Grant to help pay their educational expenses. Students must demonstrate substantial financial need as determined through a need analysis application. The amount of each grant will be based on the individual student's demonstrated financial need in relation to resources and cost of education. Students must apply before March 1.

This grant is not available during the summer quarter.

Students with Bachelor's degrees are not eligible.

Student Loan Guidelines

Federal guidelines require acceptance for enrollment and maintaining satisfactory academic progress, and require the College to conduct loan counseling for all student borrowers. CPCC requires this counseling prior to the completion of loan applications.

Central Piedmont Community College's primary lender, College Foundation, Inc., has been North Carolina's central lender for educational loans under the Federal Family Education Loan programs (formerly called the Guaranteed Student Loan Program).

Funds for loans through CFI are provided by North Carolina banks and other investors, with the State Education Assistance Authority providing the guarantee. Normally, Central Piedmont Community College prefers its students to use CFI as their lender. Exceptions may be made for students who are currently carrying outstanding balances on their student loans obtained through other lenders.

While CPCC normally processes loans for eligible applicants, students in the following high-risk categories must secure approval of the Financial Aid Committee prior to processing of their student loan applications:

- Students who have accumulated loan limits per grade level and have not yet completed a two-year degree;
- Students who have been denied by one lender due to a bad credit report, but who insist on applying through a second lender which does not require a credit report prior to loan approval;
- Students in their first quarter of study with no previous grade history.

• Federal Stafford Student Loans

Central Piedmont Community College requires that students who borrow money to meet their college expenses use College Foundation, Inc., Raleigh, NC, as a lender. CFI administers several loan programs, including the subsidized and/or unsubsidized Federal Stafford Loan. Refer to the Financial Aid Student Guide for details.

Emergency Short-Term Loans

Students who have applied and been approved for financial aid, and have not received a check, may qualify for an emergency, short-term loan.

A limited amount of money is available for emergency situations. Emergency loans must be repaid within thirty days.

Vocational Rehabilitation Financial Assistance

In order to qualify for Vocational Rehabilitation financial assistance, a student must have a mental or physical disability which is a barrier to employment. There must also be a reasonable expectation that, as a result of vocational rehabilitation services, the person will become gainfully employed. Each rehabilitation program is designed individually for and with the student.

The amount of the award is based on need and the type of program in which the student is enrolled. It generally pays for tuition and fees; for some books and supplies; and, in some cases, for supportive services such as interpreter services, attendant services, and transportation.

Students should contact the Vocational Rehabilitation Office nearest their home or the North Carolina Division of Vocational Rehabilitation Services, P.O. Box 26053, 805 Ruggles Drive, Raleigh, NC 27611-6053 or call (919)733-3364.

Scholarship Program

Introduction

The scholarship program at Central Piedmont Community College consists of two kinds of awards: merit-based scholarships and need-based scholarships.

Students do not usually apply for specific scholarships at Central Piedmont Community College; instead, all qualified applicants are considered for all available scholarships. Students should contact their program Department Head for additional scholarship information.

Scholarships are made available to the recipient on a prorated basis each quarter during the academic year. An award for a second year may be made upon approval of a new application and continued satisfactory academic performance.

New high school graduates, transfer, and returning students are eligible to apply. All scholarship recipients must have a 3.0 (B) grade point average prior to receiving a scholarship and must maintain full-time enrollment.

Unless otherwise specified, scholarship applications are available from the Financial Aid Department on the Central Campus. Questions regarding application and selection should be directed to the Financial Aid Department at (704)342-6579.

Donors of scholarships should direct these tax-exempt contributions to the CPCC Foundation, Incorporated, a non-profit, 501(c)(3) foundation that supports and supplements educational programs, projects, and scholarships at CPCC for which funds from other sources are unavailable or inadequate. Questions regarding the establishment of scholarships and requests for other scholarship donor-related information should be directed to The CPCC Foundation at (704)342-6869.

Selection Procedure

The following describes the policy and procedure for awarding scholarships:

The awarding of need-based and when necessary merit-based scholarships is the responsibility of the Financial Aid Department.

The Director of Financial Aid will contact each Department Head as scholarships are received. The Department Head is encouraged to submit names of eligible students who should be considered for scholarships. The recommendations should be made within ten working days once the Department Head is notified of scholarships.

If the Director of Financial Aid receives no response from the Department Head after ten days, the Director will be responsible for selecting students based upon a computerized listing containing student's current program and GPA.

Upon the receipt of recommendations of eligible students, the Financial Aid Committee will meet to make the award. The Financial Aid Department will then notify the student, the Foundation, and the Department Head. It will also ensure that students send thank you letters to the scholarship donor.

These students who are currently receiving any type of financial aid assistance **and** who are selected for additional awards are subject to any necessary adjustment of their previous award. These procedures are necessary to prevent any over-awards and to spread out CPCC's limited funds to a larger student population.

These procedures should enhance the award process and ensure that scholarship monies do not sit idle waiting for students to be nominated.

THE FOLLOWING IS A LIST OF AVAILABLE SCHOLARSHIPS:

JAMES MOSES AND STELLA FROSST ALEXANDER SCHOLARSHIP
FRED D. ALEXANDER MINORITY SCHOLARSHIP
AMERICAN CULINARY FEDERATION SCHOLARSHIP
AMERICAN EXPRESS SCHOLARSHIP
APPLICATION SYSTEMS FORUM SCHOLARSHIP
BETTY GRAGG AUSTIN MEMORIAL SCHOLARSHIP
BARCLAYS AMERICAN SCHOLARSHIP
BEALL FAMILY SCHOLARSHIP
VALENE CANNON SCHOLARSHIP
CAROLINA WOMEN IN INVESTMENT SCHOLARSHIP
CAROLINA'S MEDICAL - MARTIN CANNON SCHOLARSHIP
WAYLAND H. CATO SCHOLARSHIP
CHARLOTTE BLUE SCHOLARSHIP
CHARLOTTE BUSINESS LEAGUE SCHOLARSHIP
CHARLOTTE ENGINEERS CLUB SCHOLARSHIP
CHARLOTTE BUSINESS AND PROFESSIONAL WOMEN'S CLUB SCHOLARSHIP
CHARLOTTE REGIONAL SAFETY AND HEALTH SCHOLARSHIP
CHARLOTTE SENIOR FORUM SCHOLARSHIP
CHARLOTTE WOMAN'S CLUB SCHOLARSHIP
TOM COLLIGAN MEMORIAL SCHOLARSHIP
CPCC FACULTY/STAFF SCHOLARSHIP
CPCC GENERAL SCHOLARSHIP
LAWRENCE CROW MEMORIAL SCHOLARSHIP
CROWDER CONSTRUCTION SCHOLARSHIP
DATA PROCESSING MANAGEMENT ASSOCIATION SCHOLARSHIP
DICKSON FOUNDATION MERIT SCHOLARSHIP
JOHN DUNN SCHOLARSHIP
ELECTRO-OPTICS SCHOLARSHIP
EXECUTIVE WOMEN INTERNATIONAL SCHOLARSHIP
WILLIAM FICKLEN SCHOLARSHIP
FIFTH DIMENSION CLASS/MYERS PARK BAPTIST CHURCH SCHOLARSHIP
FIRST UNION NATIONAL BANK SCHOLARSHIP
SUSAN KELLY FONTES FUND-CPCC FOUNDATION
KARL AND ANNA GINTER FOUNDATION SCHOLARSHIP
GREEK ORTHODOX LADIES PHILOP SOCIETY SCHOLARSHIP
GLADYS W. HATCH MUSIC ENDOWMENT SCHOLARSHIP
J.E. HALL SCHOLARSHIP
HOLY TRINITY GREEK ORTHODOX SCHOLARSHIP
STEPHEN P. HOEFLE VOCATIONAL SCHOLARSHIP
HORTICULTURE SCHOLARSHIP
JAMES HUGHES MEMORIAL SCHOLARSHIP
INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERING SCHOLARSHIP
INTERNATIONAL BUSINESS SCHOLARSHIP
BILL KEMPER SCHOLARSHIP
EMIL J. KRATT SCHOLARSHIP
LAW ENFORCEMENT SCHOLARSHIP
GEORGE W. LEMONS SCHOLARSHIP
LEON LEVINE SCHOLARSHIP
LORI M. MARTIN MEMORIAL SCHOLARSHIP
VIRGINIA MATHIS MEMORIAL SCHOLARSHIP
BEVERLY MCKEITHEN MEMORIAL SCHOLARSHIP
VICKIE MCKINNEY SCHOLARSHIP
MECKLENBURG GENERAL CONTRACTOR SCHOLARSHIP
MEMORIAL SCHOLARSHIP FUND
MERCY HOSPITAL SCHOLARSHIP
MERMANS FOUNDATION SCHOLARSHIP
METROLINA BUSINESS AND PROFESSIONAL WOMEN'S SCHOLARSHIP
MONTIBELLO GARDEN CLUB SCHOLARSHIP
CARLA MORRISON SCHOLARSHIP
THERESA MULLIS MEMORIAL SCHOLARSHIP
NC COMMUNITY COLLEGE SCHOLARSHIP
NC PETROLEUM MARKETERS SCHOLARSHIP
PARALEGAL CLUB SCHOLARSHIP
MARY G. PICKENS SCHOLARSHIP
PIEDMONT CLUB SCHOLARSHIP
PIEDMONT NATURAL GAS SCHOLARSHIP
PILOT CLUB SCHOLARSHIP
JIMMIE AND RONNIE POURLOS CHEMISTRY SCHOLARSHIP
PROFESSIONAL SECRETARIES INTERNATIONAL SCHOLARSHIP
QUEEN CITY OPTIMIST SCHOLARSHIP
RADIATOR SPECIALTY SCHOLARSHIP
RANKIN SCHOLARSHIP
REEVES BROS SCHOLARSHIP
RESPIRATORY CARE SENIOR STUDENT SCHOLARSHIP
M.B. RORIE SCHOLARSHIP
ROTARY CLUB-CHARLOTTE SOUTH SCHOLARSHIP
ROTARY CLUB-NORTH MECKLENBURG SCHOLARSHIP
RUSSELL SHRINER MUSIC SCHOLARSHIP
CHARLES A. STONE SCHOLARSHIP
SOUTH PARK LIONS CLUB SCHOLARSHIP
MARGARET TASKER STITH SCHOLARSHIP
SURTMAN FOUNDATION SCHOLARSHIP
UNITED MECH CORP SCHOLARSHIP
VAN EVERY SCHOLARSHIP
WACHOVIA TECH SCHOLARSHIP
WASHBURN GRAPHICS SCHOLARSHIP
SPURGEON W. WEBBER JR. MINORITY SCHOLARSHIP
JOHN WHITE PHOTO FUND
ROSALIE C. WILLIAMS BUSINESS SCHOLARSHIP
PAT LOCKE WILLIAMSON SCHOLARSHIP

LAUREN WILD SCHOLARSHIP
WINCHESTER SURGICAL SCHOLARSHIP
WOMEN IN ELECTRONICS SCHOLARSHIP
WOMEN IN TRANSPORTATION SCHOLARSHIP

For more information, contact the Financial Aid Office at (704) 342-6240.

Veteran and Military Affairs

Overview

Financial Aid for Qualified Recipients of Special U.S. Government Benefits Programs

This institution is approved by the North Carolina State Approving Agency for the enrollment of persons eligible for education assistance benefits from the U.S. Department of Veteran Affairs (VA). Entitled veterans, participants in the Montgomery G. I. Bill contributory program, active duty military in voluntary education programs, drilling National Guard, drilling Reservists, and eligible spouses and offspring who have applied, met all admissions criteria, been fully accepted, and actively matriculated may be certified to the U. S. DVA Regional office as enrolled and in pursuit of an approved program of Education.

For information about monetary benefits contact the U. S. Department of Veteran Affairs Regional Office in Winston-Salem, NC. For information about the available programs at this institution, contact the Campus Veterans Assistant Specialist.

Veterans, Eligible Persons, National Guard, Selected Reserves, and Active Military Personnel

The College provides educational opportunities at both college and secondary school levels for veterans, disabled veterans, eligible persons (spouse and/or dependents) of service-connected deceased or 100% service-connected disabled veterans, those missing in action, and prisoners of war.

For additional information regarding these benefits, which are administered by the United States Department of Veterans Affairs (DVA), contact one of the following offices:

- Department of Veterans Affairs, Regional Office, Winston-Salem, NC
- County Veterans Service Office
- District Office of the North Carolina Division of Veteran Affairs
- CPCC Office of Veteran and Military Affairs

Montgomery GI Bill (Selected Reserve - Chapter 106)

Members of the North Carolina National Guard (Air, Army) and Selected Reserves (Air Force, Army, Coast Guard, Marines, Navy) are eligible for educational assistance under the Montgomery GI Bill (Chapter 106) which began July 1, 1985. Members must be serving a six-year enlistment or re-enlistment to qualify. Effective October 1, 1990, benefits became payable for development and deficiency courses.

For more information, contact the respective National Guard or Selected Reserve Command, the U.S. Department of Veterans Affairs, or the CPCC Office of Veteran and Military Affairs.

Tuition Assistance

Tuition assistance, awarded by the respective branch of service, may also be available to members of the National Guard or to Active Duty Personnel.

Eligibility requirements are available at the member's unit command or from the CPCC Office of Veteran and Military Affairs.

Tutorial Assistance

Tutoring for classes is available through the CPCC Drop-In Center. If free tutorial is not available, the Department of Veterans Affairs will pay the cost of tutorial assistance.

Current GI Bills

- Chapter 30 - Montgomery: Active duty since July 1, 1985
- Converters: Chapter 34/30 - Vietnam Era: Chapter 30 Eligible; Active duty since October 19, 1984
- Chapter 106 - Montgomery: National Guard, Selected Reserves, since July 1, 1985
- Chapter 31 - Vocational Rehabilitation (service-connected, 20% or more disabled)
- Chapter 32 - Post-Vietnam Era, Veterans Education Assistance Program (VEAP)
- Chapter 35 - Spouses/Dependents (service-connected, 100% disabled or deceased
- Sections 903 and 901 - non-Contributory VEAP

Academic Requirements

"The law requires that educational assistance benefits to veterans and other eligible persons be discontinued when the student ceases to make satisfactory progress toward completion of his/her training objective. Benefits cannot be resumed unless DVA finds that the cause of the unsatisfactory progress or conduct has been removed and the program of education or training to be pursued by the student is suitable to his/her aptitudes, interests, and abilities."*

*From: Certification of Students Under Veterans' Laws, American Association of Collegiate Registrars and Admissions Officers.

Veterans and other eligible persons follow the same standards of academic progress that apply to all CPCC students. These standards are described in the College Policies and Procedures section of this catalog.

Veterans and other eligible persons are required to seek academic assistance by contacting their instructor, counselor, advisor, or the CPCC Office of Veteran and Military Affairs before academic difficulties place them on "Academic Intervention" or "Academic Suspension."

• Reporting Procedures

Both CPCC and the recipient of tuition assistance are responsible for reporting status changes or lack of satisfactory academic progress, as specified by the respective branch of the service or agency.

Veterans and other eligible persons are responsible for and required to notify the CPCC Office of Veteran Affairs immediately of any pending or approved program changes, withdrawal from enrollment, or graduation. Veterans and other eligible persons are also responsible for and required to notify the CPCC Office of Veteran Affairs immediately of all pending and approved course substitutions and/or waivers. All status changes and course load adjustments for poor attendance must be reported promptly, and any overpayments must be repaid to DVA.

Class attendance is required. Instructors are required to submit CPCC "Veterans Exceptional Reports" through their department head to the CPCC Office of Veteran and Military Affairs immediately after a student has missed two consecutive weeks or stops attending before the end of the quarter.

"Full-term" attendance extends through the last scheduled class of the quarter. CPCC instructors are required to report the last day of attendance promptly.

Academic requirements, reporting procedures, mitigating circumstances, and other information regarding veterans and eligible persons also apply to students who are members of the National Guard and Selected Reserves.

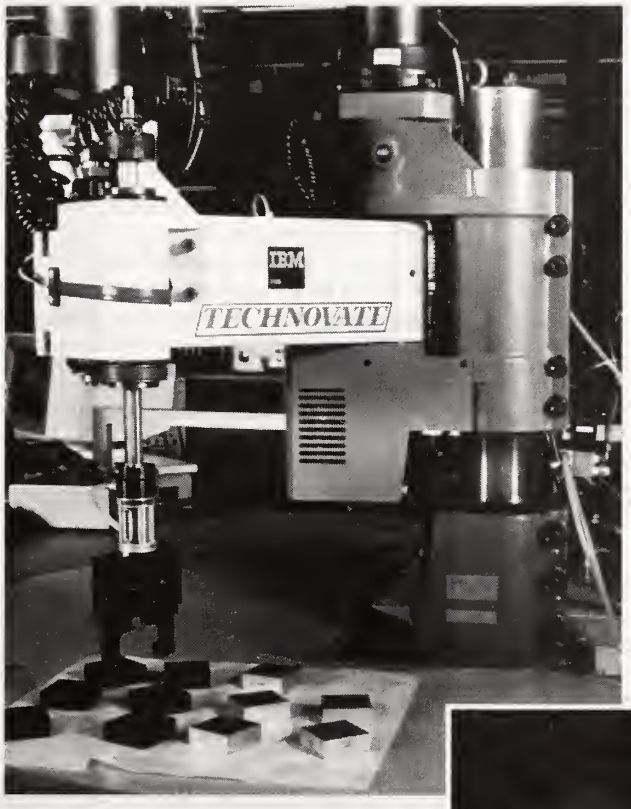
• **Records**

"Records of Progress" are kept by the College on both veteran and non-veteran students. Progress records (grade reports) are furnished to all students, veteran and non-veteran, at the end of each quarter.

• For assistance or more information

Contact the CPCC office of Veteran and Military Affairs by calling (704)342-6942.

College Policies and Procedures



Policies and Procedures

Academic Advisement

Academic Advisement at CPCC is a comprehensive program designed to help students succeed in meeting their educational goals. After a student has officially declared a program of study and has completed the admissions process, a faculty member from the program will be assigned as the student's faculty advisor. Students are encouraged to contact their faculty advisors when they have questions, concerns or academic problems; however, academic advisement is mandatory only for students who do not meet the standards of progress stated in the CPCC grading policy. All students who have not been placed in a program or who have other questions related to programs and advising can receive assistance through the Academic Advising Center.

Academic Honors

President's List

To honor students for outstanding academic achievement, the College publishes a President's List at the end of each quarter, recognizing students enrolled in curriculum programs who meet the following requirements:

- In a given quarter, have completed at least 15 hours of credit in courses numbered 1000 through 5000, and
- In a given quarter, have achieved a 4.00 grade point average with no F's, I's, or W's.

Deans' List

To honor students for outstanding academic achievement, the college publishes a Deans' List at the end of each quarter, recognizing students enrolled in curriculum programs who meet the following requirements:

- In a given quarter, have completed at least 12 hours of credit in courses numbered 1000 through 5000, and
- In a given quarter, have achieved a 3.50 or higher grade point average with no F's, I's, or W's.

Attendance

Absences seriously disrupt a student's orderly progress in a course and significantly diminish the quality of group interaction in class. There is also a close correlation between the number of absences and the final grade. Although an occasional absence may be unavoidable, it in no way excuses a student from meeting the requirements of the course. Students are still responsible for preparing all assignments for the next class and for completing work missed.

After the Drop/Add Schedule Adjustment period, if a student is out two consecutive weeks, the instructor has authority to withdraw the student from the course, as well as authority to determine whether the student shall be reinstated. The authority of the instructor to withdraw a student should not interfere with the State's refund policy.

Auditing Courses

Students who wish to audit a course must complete an Audit Agreement form, get the course instructor's signature, and submit the Audit Agreement to the Registration Center by the 30% date of the class. Registration procedures and fees for an audited class are the same as those for regular and non-credit enrollment. Certain courses, however, may be designated as inappropriate for audit. Non-credit courses may not be audited without permission from the senior administrator in Corporate and Continuing Education. No student will be allowed to change from an audit to a credit designation or from a credit to an audit designation after the 30% date of the class.

The hours of an audited course will be counted as part of a student's load and will be subject to overload restrictions. A student may audit a course only once, and all those doing so must adhere to the instructor's classroom policies. A record of the audit will be entered on the student's transcript as AUD. The AUD carries no college credit and will not be converted to a letter grade.

Changing Grades

The instructor of record is the individual authorized and responsible for personally changing grades for his/her students. In an instructor's absence, the department head may change a grade for that instructor after consulting with him/her. In circumstances when the instructor cannot be located for an extended period of time and valid reasons exist for changing the grade, the department head is authorized to make the appropriate change. The procedures below are to be followed when a grade change is appropriate:

1. The instructor (or department head) will go personally to the Student Records Office to change the grade.S/he will present identification (CPCC ID or driver's license) to the Records Clerk.
2. The instructor (or department head) will personally complete and sign a form stating the original grade, new grade, and reasons for the change. The Records Clerk will also sign the form. One copy will be placed in the student's record, one will be given to the instructor, and one will be sent to the department head. The original will be sent to the Director of Admissions and Records.
3. Using the signed change document, the Director of Admissions and Records or a designee will personally change the grade on the original roster and initial and date the change.
4. The Director of Admissions and Records or his designee will then change the grade on the student's computerized record and mail the student a copy of the revised transcript.

Course Load

Students registered for at least 12 hours of credit are considered full-time students. Overload hours require permission from a program director, program counselor, or department head. The approved overload form must be presented when registering.

Overload levels are:

- Business, Health & Technology Programs – 21 hours
- College Transfer Programs – 20 hours
- Associate in General Education Degree Program – 20 hours
- Undeclared Program - 20 hours

Course Substitution

Course substitutions are permitted with the approval of the department.

Course Waiver

Course waivers are permitted upon approval of the department head. No credit hours will be granted for courses that are waived.

College - Level Examination Program (CLEP)

Central Piedmont Community College is a national center for administering CLEP exams. The College grants CLEP credit according to the following guidelines:

Examination	Credit Granting Score	Credits Granted (Quarter Hrs.)	Equated CPCC Course(s)
General			
English Composition with Essay	500	5	ENG 1504
Subject			
Calculus with Elem. Func.	50	15	MAT 1524, MAT 2504 & MAT 2505
College Algebra	48	10	MAT 1504 & MAT 1505
College Algebra-Trig.	50	10	MAT 1514 & MAT 1515
College French, Level II	42 45	6 12	FRE 2600 FRE 2600 & FRE 2601
College German, Level II	44 48	6 12	GER 2600 GER 2600 & GER 2601
College Spanish, Level II	45 50	6 12	SPA 2600 SPA 2600 & SPA 2601
Freshman English (with Essay)	51	10	ENG 1504 & ENG 1505
General Biology*	49	5	BIO 1500
General Chemistry**	50	5	CHM 1504
Info. Systems & Computer Applic.	52	5	EDP 1500
Intro. to Management	47	6	MGT 2314 & MGT 4332
Intro. Accounting	47	12	ACC 1604 & ACC 1605
Intro. Macroeconomics	48	6	ECO 2304 & ECO 2306
Intro. Microeconomics	47	6	ECO 2305 & ECO 2306
Intro. Psychology	47	5	PSY 2504
Intro. Sociology	47	5	SOC 2514
Principles of Marketing	48	6	MKT 1304 & MKT 1305
Western Civilization I	46	5	HIS 1500
Western Civilization II	47	5	HIS 1501

* Subject to satisfactory performance in any other laboratory science course at CPCC.

** Subject to having had a previous general chemistry course that included lab experimentation, and to having earned a minimum grade of "C" in CHEM 1505.

The amount of CLEP credit awarded within a specific program will be determined by the appropriate department. CLEP policy is subject to change as necessary.

CLEP examinations are administered monthly by the CPCC Testing and Assessment Center. Applicants should contact the Center for an application or additional information: (704) 342-6886.

Credit By Examination

In order to receive credit by examination, a student must show convincing evidence of special aptitude or knowledge of the course material. A written, oral, and/or performance examination will be developed and administered by an instructor of the course. The examination is subject to the approval of the department head. If the student performs satisfactorily on the examination, a grade of "X" will be recorded. The "X" grade carries no quality points, but credit hours will be given identical to the number normally assigned credit hours to that course at Central Piedmont Community College.

Grading Policy

Student Grade Point Average

Students are graded according to the following grade point system.

Grade	*Point Value*	*Description*
A	4	Excellent
B	3	Very Good
C	2	Satisfactory
D	1	Poor
F	0	Failing

The following grades will not be used in computing the grade point average:

AUD Audit
I Incomplete
N Never Attended
S Satisfactory
U Unsatisfactory
W Withdrawal
X Credit by Examination

Example:

ENG 1504, 5 credits, Grade A = 4 points, 5 X 4 = 20
MAT 1504, 5 credits, Grade B = 3 points, 5 X 3 = 15
DFT 3405, 4 credits, Grade C = 2 points, 4 X 2 = 8
PRN 5200, 2 credits, Grade D = 1 point, 2 X 1 = 2
HPE 1101, 1 credit, Grade F = 0 points, 1 X 0 = 0
Total Credits: 17 Total Points: 45
Divide 45 points by 17 credits = 2.647 GPA (Grade Point Average)

Three GPA's will appear on the student's academic record: (1) cumulative GPA, (2) program GPA, (3) quarterly GPA.

A "W" **(Withdrawal)** will be assigned during the first two-thirds of a course if a student has been out of contact with the

instructor for two consecutive weeks *following the Drop/Add Schedule Adjustment period.* The instructor may assign a "W" at other times when circumstances warrant such action, and the instructor may reinstate the student. The student may also officially withdraw from a course prior to the last 14 calendar days of the quarter (short summer session: 7 days) by presenting a request to the Registration Center. A "W" will remain on the student's transcript and will not count as credit hours attempted.

An "I" (**Incomplete**) may be assigned when a student has persisted through the course and has completed at least 90% of the requirements for passing the course or in other extenuating circumstances as determined by the instructor. The student may have a maximum of two quarters to resolve an "I" grade, unless the time period is otherwise specified by the department. When an "I" grade has been resolved, the final grade will be recorded beside the "I" (e.g., I/B) and the GPA's will be recomputed. An "I" which is unresolved will be changed to the grade of "I/F" after two quarters.

Excessive "I's," "F's" and "W's"

A student will not be allowed to register for a course in which he or she has received three "I's," "F's,"and/or "W's" until permission is received from the department that offers the course.

Repeated courses

Repeated courses will appear on the student's transcript. Each attempt will be shown, but the student's cumulative and program GPA's will be recomputed to count only the last completed attempt.

Standards of Academic Progress

For students seeking a degree, diploma or certificate, certain standards of academic progress apply. These standards are designed to assist students in meeting their academic goals. These students must have a 2.0 GPA in the curriculum required for the degree, diploma, or certificate. In addition, for students enrolled in certain programs, a grade of C or better in certain courses may be required in order to receive the degree, diploma, or certificate from Central Piedmont Community College.

Academic Assistance

Students who are enrolled in a program and whose quarterly GPA falls below 2.0 or who have not received credit for at least one half (50%) of the hours for which they have registered in a given quarter (due to I's, F's, and W's), will receive a letter informing them that they must make arrangements to consult with their Faculty Advisor.

Academic Intervention

Students whose cumulative program GPA falls below the following categories will be placed on academic intervention. While on academic intervention, students will be limited to registering for the number of hours approved in writing by their Faculty Advisor. Students may be required to register for special assistance courses.

2-Year Degree Program Category

1. 0-30 credit hours attempted 1.50 GPA
2. 31-60 credit hours attempted 1.75 GPA
3. 61-75 credit hours attempted 1.90 GPA
4. 76+ credit hours attempted 2.00 GPA

1-Year Program Category

1. 0-15 credit hours attempted 1.50 GPA
2. 16-30 credit hours attempted 1.75 GPA
3. 31-45 credit hours attempted 1.90 GPA
4. 46+ credit hours attempted 2.00 GPA

Students in certificate programs will be placed on intervention when their cumulative program GPA falls below 2.0.

Academic Suspension

Following a notice of academic intervention, students who do not raise their cumulative program GPA to the required level within two quarters will be placed on academic suspension. Students on academic suspension may be ineligible to enroll for college credit classes for one quarter. Academic suspension may be appealed to the Dean of Student Development.

Grade Appeals Procedure

Students who believe that they have been graded unfairly in a course and who wish to appeal the grade should obtain a copy of the Grade Appeal Procedure in the Welcome Center or in an Area Learning Center. The procedure explains the steps that a student must follow in appealing a grade.

Graduation

The College reserves the option of changing the requirements for completing a degree, diploma, or certificate program at any time. When such changes occur in degree or diploma programs, the College will honor the original program completion requirements for four years for students who were enrolled in the program at the time of the change, and they may fulfill either the original requirements or the changed requirements.

When a student is not enrolled in program-related courses for four or more consecutive quarters, the requirements for program completion will be based on those requirements in effect when the student re-enrolls in the program, not on those in effect when the student originally entered the program.

Exceptions to requirements and catalog year changes can be made upon the approval of the Department Head. Sometimes such exceptions must be made because courses in an earlier curriculum program may no longer be offered.

Processing of Degrees and Diplomas:

1. If a student is within two quarters of graduation, including the current quarter of enrollment, a Graduation Check Request Form should be obtained from the Graduation Certification Office.

2. After receiving this form, staff in the Graduation Certification Office review all records in the student's folder and mail the student a list of courses that must be completed in the final quarter of study, as well as a list of any documentation in the student's folder that is incomplete.

3. Upon successful completion of the final courses required for graduation, a notation of the degree or diploma and the date of graduation is entered on the student's CPCC transcript. The student's date of graduation is the quarter (summer, fall, winter, or spring) when all documents needed for graduation certification are on the file in the student's folder. Graduates may request copies of their transcripts from the Office of Admissions and Records whenever it is necessary for them to provide documentation of completed course work and related training for employers and others requiring this information. Transcripts are not released if the student owes money to the College.

4. Any graduate who would like a degree or diploma, suitable for framing as a memento, needs to fill out a Degree/Diploma Order Form in the Graduation Certification Office (Garinger Building, 2nd floor). This form is then presented to the Cashier's Office with payment of the $12.50* order fee. (Previous quarter students pay $15.00.*)

*Note: This cost is subject to change without notice.

Program Help

Program information, including admission requirements, is available by calling Telephone Registration, CHRIS (Computer-Handled Registration/Information System) at (704)342-6970. This service is available twenty-four hours a day, seven days a week. To find the telephone code for information about a specific program, consult the current CPCC class schedule.

Repeating Successfully Completed Courses

Curriculum Courses:

With the exception of a very few DAN - and MUS - prefix courses that can be repeated more than two times to meet degree requirements, students must obtain departmental approval before enrolling in a course which they have already successfully completed twice. HPE courses, however, may not be repeated after one successful completion.

Continuing Education Courses:

Students who take occupational extension classes more than twice within a five-year period will pay their cost for the course based on the amount of funds generated by a student membership hour for occupational extension multiplied by the number of actual hours the class is to be taught.

Students may repeat occupational extension courses more than once if the repetitions are required for certification, licensure, or recertification.

Self-supporting classes (Corporate and Continuing Education for example) may be repeated any number of times.

Occupational Extension Course Repetition Policy*

Effective July 1, 1993, students who take an occupational extension course more than twice within a five-year period will be charged the full cost of the course.

Senior citizens who are legal residents of North Carolina and who wish to enroll in an occupational extension course will not be required to pay for taking the course twice. Senior citizens who take an occupational extension course more than twice within a five-year period must pay for the cost of the course.

Students may repeat occupational extension courses more than once if the repetitions are required for certification, licensure, or recertification.

*This policy is subject to change based on directives from the Department of Community Colleges.

Readmission from Suspension

Central Piedmont has an open door policy and does not suspend a student from the College for academic reasons. However, according to the Grading Policy, when a student has performed below standards of progress for a specified period of time, that student may be suspended from taking curriculum classes for a quarter.

When a student's program GPA drops below standards, the student is placed on Academic Intervention. If Intervention has occurred for two consecutive quarters and the program GPA at the end of the second quarter of Intervention is still below the Standards of Progress, the student is then placed on Suspension for one quarter.

During that quarter, the student has several options:

- Take classes in Advancement Studies, ESL, Study Skills, or Career Development (GEN 1201) that can provide the student with skills needed to improve class performance;
- Take Continuing Education classes;
- Take no classes;
- Change programs.

When the student is suspended, the program counselor provides academic advisement, rather than a faculty advisor in the program. When the student returns after the quarter of Suspension, the student is on probation and continues to be counseled by the program counselor. If, at the end of the probationary quarter, the program GPA meets the Standards of Progress, the student is returned to a faculty advisor in the program.

If the program GPA at the end of the probationary quarter remains below Standards of Progress, the student is again suspended with the same options as above. However, if the student has made progress toward improving the program GPA, the program counselor can waive the suspension and allow the student to continue for another quarter.

Students on Second Intervention, Suspension, or Probation are not allowed to register until the current quarter ends. This option has been chosen by the College, rather than the alternative of canceling classes for these students.

Student Academic Integrity Policy

The purpose of the CPCC Code of Student Academic Integrity (see CPCC Student Handbook) is to support the continued growth and development of the foundation of a strong academic community based on the principles of academic honesty and integrity.

Although the commitment to maintaining and enforcing high standards of academic honesty and integrity at Central Piedmont rests with all members of the College community, faculty members, in particular, are charged with taking measures to preserve, transmit, and model those standards through example in their own academic pursuits and in the learning environment which they create for their students. Students, likewise, as members of the College's academic community, are obligated to take an active role in the preservation of the standards of academic honesty and integrity, encouraging others to respect those standards.

It is the expectation of the College that students maintain absolute integrity and high standards of individual honor in their academic work. Conduct that violates the standards of academic honesty and integrity and is subject to disciplinary action may include, but is not limited to, cheating, fabrication and falsification, plagiarism, abuse of academic materials, installation of a computer virus, and complicity in academic dishonesty. Any student who violates the CPCC Code of Student Academic Integrity is subject to academic disciplinary action. Such action may include, but is not limited to, entry of the incident in the records of the Office of Student Development; reduced grades; and dismissal from College classes, programs, and activities.

Student Conduct

The college reserves the right to maintain a safe and orderly educational environment for students and staff. Therefore, when in the judgement of College officials, a student's conduct disrupts or threatens to disrupt the College community, appropriate disciplinary action will be taken to restore and protect the well being of the community.

Students are expected to conduct themselves in accordance with generally accepted standards of scholarship and morality.

The purpose of the Student Code of Conduct (complete policy and procedures in the Student Handbook) is not to restrict student rights but to protect the rights of individuals in their academic pursuits.

Students should note that the possession, consumption, or distribution of alcohol or illegal drugs, or possession of weapons on the Elizabeth Campus or any other CPCC instructional site is specifically prohibited and regulated by state statute. Violators will be prosecuted by the authorities.

Student Grievance Procedure

Students wishing to appeal any decision affecting their status at Central Piedmont Community College should first appeal to the instructor or staff member making the decision. If students are not satisfied and the problem involves a program matter, appeal may be made through the appropriate curriculum department head to the program Dean, to the Vice President for instruction and to the President. Non-program matters follow the same route except through the Dean for Student Development rather than a program Dean. All such appeals should be in writing and state the basic facts of the case. If a student requires secretarial or other assistance in preparing the appeal due to his or her disability, such assistance will be provided upon request.

A grievance related to discrimination should first be presented to the Affirmative Action Officer, Terrell Building, Room 522. Also, grievances related to Title XI should be directed to the special Assistant to the President for Affirmative Action, Terrell Building, Room 522. If, after presentation of a grievance to the appropriate administrator, a student is not satisfied, or if the grievance involves a concern or action relating to an administrator to whom the initial grievance would normally be made, appeal may be made to the President of CPCC.

Student Records (Transcripts)

The College maintains the position that students' records are their own property; therefore, this information is released only when a student signs a Records Release Form in the Office of Student Records. Students may have copies of their transcripts sent to any institutions or individuals they choose. They may also order copies for their own use.

Policies and Procedures:

Central Piedmont Community College, in fulfilling its responsibilities to students, must maintain accurate and confidential student records. The College staff recognizes the rights of students to have access to their academic and personal records in accord with existing College policy and the Family Educational Rights and Privacy Act of 1974 (Buckley Amendment).

Definition of Term "Educational Records":

These regulations, as defined under the provisions of the Family Educational Rights and Privacy Act of 1974, include files, documents, and other materials which contain information directly related to students and which are maintained by an educational institution or by an authority on behalf of the institution. The term "educational record," under the provisions of the law, does not include the following:

1. Records of institutional, supervisory and administrative personnel which are in the sole possession of the maker and which are not accessible or revealed to any other person except a substitute for the above named personnel;

2. Records and documents of Security Officers of the institution which are kept apart from such educational records;

3. Records on students which are made or maintained by a physician, psychiatrist, psychologist, counselor, or other recognized professional or paraprofessional acting in their official capacity and which are made, maintained, or used only in connection with a provision for treatment for the student and are not available to anyone other than the persons providing such treatment, except that such records can be personally reviewed by a physician or other appropriate professional of a given student's choice;

4. Financial records of the parents of the students or other information therein contained;

5. Confidential recommendations if a given student has signed a waiver of the student's rights of access, provided such a waiver may not be required of the student;

6. Confidential letters or statements of recommendation which were placed in educational records prior to January 1, 1975, if such records or statements are not used for purposes other than those for which they were specifically intended; and

7. Medical records, physical examination results, reasonable accommodation request forms, or other medical information which are required to be kept apart from general educational records and treated as confidential in accordance with the Rehabilitation Act of 1973 and the Americans with Disabilities Act.

Control Provisions on Student Records and Student Information:

1. Transcripts and other information are released only with written permission of the student. When information other than the transcript is released from the student's official record (Office of Student Records), the student will receive a copy of the release.

2. Students have the right to inspect their own records whether recorded in hard copy form or recorded in the form of magnetic disks and microfilm. Upon inspection, students are entitled to an explanation of any information contained in their records.

3. The official student file will not be sent outside the Counseling Office, Records Office, Admissions Center, Financial Aid Office, Veteran and Military Affairs Office, or other custodial office except in circumstances specifically authorized by the Dean for Student Development. The authorization for such special circumstances must be in writing.

4. All medical records, physical examination results, reasonable accommodation request forms, or other medical information must be collected on separate forms, maintained in separate medical files kept apart from a student's general educational records, and treated as confidential. Disclosure of such information may only be made at the express, written consent of the student to the following:

   a. Administrators, Department Heads and others involved in a request for reasonable accommodation or evaluation of qualifications for or performance in a course, program, service or activity;
   b. Department Heads and instructors for purposes of implementing and enforcing necessary restrictions and accommodations; and
   c. First aid and safety personnel if a known disability may require emergency treatment.

Release of Student's Educational Records to Educational Institutions, State and Federal Agencies:

1. Such requests for confidential information shall not be honored without proper written consent by the student for the

release of such records by the student except under conditions indicated in paragraphs 2 and 5 below.

a. The written consent must specify the records or the specific data to be released, to whom they are to be released, and the reasons for release.
b. Each request for consent must be specific, and each request must be handled separately.

2. Request for confidential information will be honored without prior consent of the student in connection with an emergency, if the knowledge of such information by appropriate persons is necessary (in view of a reasonable person) to protect the health or safety of the student or other persons. However, such a release shall have the approval of a Cabinet Officer unless it can be shown that, under the circumstances, time would not permit or that no Cabinet Officer was available.

3. The following "Directory Information" may be made available to the public by the College unless students notify the Dean for Student Development in writing, by the third week of the quarter, that such information concerning themselves is not to be made available:

a. Student's name and hometown;
b. Major field of study or program;
c. Dates of attendance, degrees, diplomas or awards received at the most recent previous educational institution; and
d. Place of birth.

Request for non-disclosure will be honored by the College for only one academic quarter at a time; therefore, requests to withhold Directory Information must be filed with the Dean each term.

4. Information other than "Directory Information" – Any release of student information for public use or use by the media except that designated above (paragraph 3) must have prior written approval by the students involved.

5. Disclosure to Government Agencies – Properly identified and authorized representatives of or bona fide written requests from the Comptroller general of the United States, the Secretary of Health, Education and Welfare, an administrative head of a federal education agency, or state educational authorities may have access to student or other records which may be necessary in connection with the audit and evaluation of federal or state supported educational programs or in connection with the enforcement of the federal or legal requirements which relate to such programs. Routine requests for student data from such agencies as HEW, OEO, research agencies, and state reporting agencies may be honored without prior approval of the student only in formats where students are not identified.

6. Faculty and administrative officers of the College who demonstrate a legitimate educational need will be permitted to look at the official student file for a particular student.

7. Confidential information requested by other than federal or state agencies as specified in paragraph 5 above will be released only under the following conditions:

a. An official order of a court of competent jurisdiction, or
b. Subpoena (Students will be notified immediately by registered mail that their records are being subpoenaed.)

8. Record of Who Has Access – A record of access to the official student file will be maintained within the file itself. This record will show the name, address, date and purpose of the person who has been granted access. All persons who have access will be included in this record except those institutional employees who, because of the nature of their duties, have been granted access.

Students' Rights to Question Content of Their Official Student Files:

1. Students have the right to review their official records maintained by the College. Furthermore, students may question any inaccurate or misleading information and request correction or deletion of such data from their files.

2. All such requests will be sent to the Director of Admissions and Records and will become a part of that student's file.

3. All requests for correction of a student file will be acted upon within 45 work days of receipt of the request. If the custodian can verify that such data are, in fact, in error, appropriate corrections will be made and the student will be notified in writing when the correction has been completed. If an error cannot be readily substantiated, the request will be referred to an Ad Hoc Hearing Committee appointed by the Vice President for Educational Support. After a student has had the opportunity to present the case to the hearing committee, the committee will render a decision in writing stating the reasons for its decision. If the decision is in agreement with the student's request, the student will be permitted to append a statement to the record in question, showing the basis for the disagreement with the denial. Such additions will become a permanent part of the record.

Annual Notice to Students of Their Rights Under Family Educational Rights and Privacy Act of 1974:

The College policy on access to and release of student information will be made available to students, faculty and staff. This information will be placed in the Student Handbook annually.

Pre-College Programs

Pre-College Programs

Basic Studies

Adult Basic Education (ABE)

Adult Basic Education offers scheduled classes on the Central Campus and at many community locations to provide learning experiences which meet the basic educational needs of adults in Mecklenburg County. The ABE program is designed to provide learning experiences for adults 18 years old and older whose educational achievement is less than ninth grade, with special emphasis on those adults whose achievement is less than fifth grade. The ABE program also provides experiences which are intended to meet social and personal needs of adult students.

The ABE curriculum is a comprehensive curriculum which takes cognizance of the diversity of needs, interests, abilities, and desires of participating adults. Included in the curriculum are the communicative skills of reading, writing, listening, and speaking. Also included with equal emphasis are arithmetic, social studies, health and hygiene, elementary science, consumer education, and other areas of interest to the students.

For ABE information, call (704)342-6716.

ABE - Adult Basic Education Course Descriptions

(also see courses with LEP prefixes.)

ABE 6001 Adult Basic Education Level I: Upon completion of this course, students should be able to identify names of the letters and sounds of the consonants; identify short and long vowel sounds; identify other vowel and consonant spellings; fill in application forms; use a dictionary; understand concepts of a paragraph; read a story and answer questions about the main idea and details; summarize, recall sequence of events, draw inferences and apply these inferences to everyday life; add and subtract one-digit to multi-digit numbers; multiply and divide one- to three-digit numbers; and subtract from zero and multiply with zeros.

ABE 6002 Adult Basic Education Level II: Upon completion of this course, students should be able to form and read new words by adding inflectional endings, prefixes, and suffixes; select appropriate meanings of words; form sentences from phrases; identify topic sentences in paragraphs and the supporting details; add, subtract, multiply, and divide fractions, mixed numbers and decimals; find the percent of a number and determine what percent one number is of another; identify ratios and how to determine a proportion; compute with measures; add, subtract, multiply, and divide positive and negative integers.

Adult Basic Literacy Education (ABLE)

ABLE is a literacy program which offers an innovative approach for adults who cannot read, write, or calculate at an adult level. The program combines the use of microcomputers, video systems, audio tapes, and specialized programming to teach adults whose reading and math skills are below a ninth grade level. Instructors and tutors work one-on-one or in small groups to guide students through program materials and help with use of the equipment.

Instruction in the ABLE program is free for adults 18 years or over. The ABLE program seeks to combat adult illiteracy by amassing an array of educational media and teaching techniques in one location. The ABLE method speeds the educational process of adult non-readers and enhances their chances for success.

For ABLE information, call (704)342-6971.

ABL - Adult Basic Literacy Education Course Descriptions

(Also see courses with LEP prefixes.)

ABL 6003 Basic Reading Level I: Upon completion of this course, students should be able to identify names of the letters and sounds of the consonants; identify short and long vowel sounds; identify other vowel and consonant spellings; fill in application forms; use a dictionary; understand concepts of a paragraph; read a story and answer questions about the main idea and details; summarize, recall sequence of events, draw inferences, and apply these inferences to everyday life.

ABL 6013 Basic Reading Level II: Upon completion of this course, students should be able to form and read new words by adding inflectional endings, prefixes and suffixes; select appropriate meanings of words; form sentences from phrases; identify topic sentences in paragraphs and the supporting details.

ABL 6004 Basic Math Level I: Upon completion of this course, students should be able to add and subtract one-digit to multi-digit numbers, multiply one- to three-digit numbers, divide one- to three-digit numbers, subtract from zero and multiply with zeros.

ABL 6014 Basic Math Level II: Upon completion of this course, students should be able to add, subtract, multiply and divide fractions, mixed numbers and decimals; find the percent of the number and determine what percent one number is of another; identify ratios and how to determine a proportion; compute with measures; add, subtract, multiply, and divide positive and negative integers.

ABL 6015 Basic Grammar Level II: Upon completion of this course, the student will be able to identify subjects and predicates; distinguish between verbs, nouns, pronouns, adjectives, adverbs, prepositions, and articles; form sentences from phrases; identify clauses; use correct synonyms, antonyms and homonyms; punctuate sentences; and write letters.

Adult High School Diploma (HSD)

The Adult High School Diploma program leads to a diploma granted by the Charlotte-Mecklenburg Board of Education.

- Admission into the program requires that an individual be eighteen years old or older. An official transcript, in a sealed envelope from the school last attended, must be sent or presented for evaluation by CPCC.
- For graduation, the Board requires four units of English, three units of mathematics, one unit of government and economics, one unit of United States history, one unit of world cultures/history, one unit of biology, one unit of earth science/ecology, and one unit of physical science, and a passing score on the North Carolina Competency Test. Students who have not completed a required unit enroll for at least one quarter

of study in the appropriate HSD course for that subject. The unit toward graduation is earned in that subject by passing the examination at the end of the course. The North Carolina Competency Test is administered on a regular basis.

• HSD classes are held on the Central Campus and at off-Campus locations.

• There is no charge for HSD classes; however, students must purchase their textbooks.

• For more information, call (704)342-6864 or 6778.

HSD - Adult High School Course Descriptions

The courses listed below have been endorsed by the Charlotte-Mecklenburg School System. Based on a review of the individual's transcript, a student will be advised about the appropriate course(s) to take. Successful completion of selected course(s) will result in obtaining a diploma from Charlotte-Mecklenburg Board of Education through CPCC.

HSD 6002 High School Diploma English 108: This course introduces the basic study of grammar and develops writing mastery through the writing process. Types of writing include narrative and descriptive paragraphs and essays. Vocabulary development, reading comprehension, and oral communication skills are also introduced.

***HSD 6003 High School Diploma English 105:** This course expands on skills in reading, writing, and oral communication that were introduced in English 108. New concepts and skills are added to give students a basic foundation in English grammar, punctuation, and vocabulary. Students are expected to demonstrate a mastery of these skills in process writing samples.
*Prerequisite: English 108

***HSD 6004 High School Diploma English 103:** Based on skills mastered in English 105, students will increase their knowledge of grammar, reading comprehension, and vocabulary by focusing on the following: the writing and punctuation of a variety of sentence types, a review of the parts of speech, the regular use of the newspaper, and a review of basic Latin and Greek roots and suffixes. A major emphasis in this course will be on writing persuasive research papers.
*Prerequisite: English 105

***HSD 6005 High School Diploma English 107:** This course reviews all grammar skills taught in English 108, 105, and 103 and begins to develop selected advanced skills. Literature is emphasized with a focus on understanding the definition and application of certain literary terms as found in selected passages. Writing includes the development of comparison-and-contrast research papers relating to literary selections. Application of skills learned in all levels of English is stressed.
*Prerequisite: English 103

***HSD 6012 High School Mathematics I:** This is the first half of a two-course sequence designed for students who have not mastered the basic skill of arithmetic. Topics covered include addition, subtraction, multiplication, and division of whole numbers, decimals, and fractions. Special emphasis is placed on applying these skills to "real-life" situations and word problems. Continuation of studies in HSD 6013, Mathematics II, is required.
*Prerequisite: Placement Test

***HSD 6013 High School Mathematics II:** This course is a continuation of HSD 6012. Students who complete Mathematics II should be able to apply the skills developed in Mathematics I to the solution of word problems involving percent, interest, graphs, measurement, geometry, and elementary algebra. Upon completion of this two-course sequence, one unit of mathematics is earned.
*Prerequisite: HSD 6012

***HSD 6014 High School Mathematics III:** Upon completion of this course, students should be able to apply the four fundamental operations of arithmetic and elementary principles of algebra and geometry to the solution of problems involving percent; simple and compound interest; discount and commission; English and metric measures of length, mass, and volume; time and distance; statistical graphs (bar, circle and line); ratio and proportion; scale drawings; perimeter; area and volume of common geometrical figures; square root; the Pythagorean Theorem; and simple linear equations.
*Prerequisite: Placement Test

HSD 6022 United States History: Upon completion of this course, students should be able to interpret major events occurring in American history from 1865 to the present, including changes in social, economic, political, and foreign policy. Topics will include the Reconstruction,Westward Expansion, Industrial Development, The Great Depression, World Wars I & II, and events of the Cold War and Post-Cold War periods.

HSD 6023 Government and Economics: This course is designed to give students a basic overview of critical issues related to government and economics. The study of government emphasizes the United States Constitution as it relates to the structure of our national government and to the rights of individuals in our society. The study of economics involves a discussion of key economic systems and their influences on public issues. Application of these concepts to current events and practical situations is emphasized throughout the course.

HSD 6032 General Science: Upon completion of this course, students should be able to demonstrate an understanding of basic physical science concepts. Topics will include study of the atom, environmental issues, magnetism/electricity, matter, forms of energy (heat, light, sound, nuclear, solar). Application to the everyday world is emphasized throughout the course.

HSD 6033 Biology: This course is a basic study of biological concepts and principles. Upon completion, students should be able to demonstrate an understanding of cell structure and activity, plant structure, classification of living things, the human body (the body system's parts and functions, nutrition and health).

Advancement Studies

The Advancement Studies Department is an instructional program for students who have not reached college-level in the areas of English, reading, mathematics, biology, chemistry, dental anatomy, or study skills.

The philosophy of the Advancement Studies Department is that each student has unique educational needs and goals. Once these goals are identified, they can best be reached by allowing students to progress in an open, caring atmosphere.

Each course in the Advancement Studies Department has stated objectives and a system to help students accomplish those objectives.

For more information, call (704)342-6702 or 6907.

Advancement Studies Course Descriptions

BIO – Biology

***BIO 9500 Introduction to Biology:** This course is designed for students who need to update or review basic concepts in biology. Upon completion, students should be able to demonstrate an understanding of six of the following units: Cell Structure and Function, DNA, Meiosis and Mitosis, Heredity, Biochemistry, Respiration and Photosynthesis, Microbiology, Human Anatomy, Classification, Embryology, Nutrition, Ecology.
*Highly recommended prerequisite or corequisite: EDU 9300
(5-0) 5

CHM – Chemistry

***CHM 9500 Fundamentals of Chemistry:** This course is designed to provide students with a basic foundation in chemistry as preparation for college curriculum courses. Matter, energy, formula writing and equation balancing, ionization, acids and bases, metric system and introductory biochemistry are the units available for study. College Transfer students, Health Technology students, Fire Protection Technology, OSHA, and other technical program students will benefit from completing this course.
*Highly recommended prerequisite or corequisite: EDU 9300 and successful completion of at least one algebra class
(5-0) 5

EDU – Education

EDU 9300 Effective Learning Skills: Upon completion of this course, students should be able to demonstrate college-level techniques of effective study habits which include managing time, listening and taking notes, mastering textbooks, concentrating and remembering, and taking exams. They should also be able to explain the use of College publications, to know the procedures for registration and to know how to benefit from the resources available at CPCC. (3-0) 3

ENG – English

ENG 9500 Learning to Write: This introductory course is designed to improve students' writing process by introducing them to grammar labs, helping groups, word processing, and to such techniques as sentence combining. The course is designed to meet the needs of students who lack the necessary English grammar background to express themselves in sentences. Upon completion of this course, students should be able to write clear, concise, and correctly punctuated sentences and to combine them to form paragraphs. (5-0) 5

ENG 9505 Spelling and Vocabulary: This is a course designed to teach students how to pronounce speech sounds, how to pronounce words, and how to spell. The course consists of a careful study of and practice exercises on spelling rules and vocabulary which is relevant to the student's program. Upon completion of this course, a student's spelling, pronunciation, and vocabulary of standard English should improve significantly (5-0) 5

***ENG 9510 Fundamentals of Writing:** This course is designed to meet the needs of students who are preparing to enter college transfer or technical writing courses: however, any student may enroll. Upon completion of this course, students should be able to demonstrate that they have developed effective communication skills by writing and proofreading paragraphs and essays.
*Prerequisite: A grade of at least C in ENG 9500 or an appropriate placement test score on the English placement test
(5-0) 5

MAT – Mathematics

MAT 9500 Arithmetic I: This course is designed to provide additional information and practice for individuals who have not yet mastered the basic skills of arithmetic. This course covers the topics of whole numbers, fractions, decimals, introduction to percents and measurements used in the United States. (5-0) 5

***MAT 9501 Arithmetic II:** This course is designed to meet the needs of all students who have mastered the skill levels of MAT 9500 (Arithmetic I). MAT 9501 focuses on such topics as ratio and proportion, percent application, metric system, geometry, graphs, and introduction to algebra.
*Prerequisite: A grade of at least C in MAT 9500 or an appropriate placement test score on the CPCC Arithmetic Placement Test (5-0) 5

***MAT 9502 Developmental Algebra I:** This course is designed for students who have not had high school Algebra I and/or for those whose Algebra Placement Test at CPCC indicates a need to review Algebra I. Upon completion of this course, students should be able to solve problems relating to the language and symbolism of algebra and elementary set theory, identify algebraic properties of the real numbers, solve first degree equations, graph linear equations, find solutions to systems of linear equations by graphing and algebraic methods, simplify expressions containing exponents, factor polynominal expressions, solve rational equations, and simplify rational and radical expressions. Students who successfully complete MAT 9502 will take MAT 9510 before advancing to MAT 1504 or to technical mathematics.
*Prerequisite: A grade of at lease C in MAT 9501 or an appropriate score on the CPCC Arithmetic or Algebra Placement Test (5-0) 5

***MAT 9510 Developmental Algebra II:** This is a course designed for students whose algebraic background is limited to the equivalent of high school Algebra I and/or for those whose Algebra Placement Test at CPCC indicates a need to review algebra before entering college or technical mathematics. Upon completion of this course, students should be able to solve first degree equations and inequalities in one variable, solve a system of two equations in two variables both graphically and algebraically, graph first degree inequalities in one variable, factor quadratics, simplify second and third order radicals, simplify expressions involving integer or other rational exponents, solve rational equations, solve second order radical equations, solve quadratic equations having real roots (by factoring, completing the square, and using the quadratic formula), and utilize a scientific calculator to evaluate powers or

roots and rearrange formulas. Upon completion, students should be prepared for MAT 3504 if in Business Data Processing Technology, MAT 3507 if in Engineering Technology, or MAT 1504 if in the College Transfer program.
*Prerequisite: A grade of at least C in MAT 9502 or an appropriate score on the CPCC Algebra Placement Test (5-0) 5

***MAT 9511 Modern Geometry:** This is a lecture course stressing plane geometry, with a brief coverage of trigonometry and solid geometry. The course is designed for students who need to review high school geometry and/or who never took high school geometry. Upon completion, students should be able to do simple proofs, solve problems relating to triangle congruence and similarity, do the basic geometric constructions, use a scientific calculator or table to evaluate a trigonometric function or find the missing angle, find missing parts of a right triangle by trigonometry (including use of a scientific calculator), find perimeter/area/volume of certain geometric figures, and work with parallel lines.
*Prerequisite: A grade of at least C in MAT 9502 or an Algebra Placement Score sufficient to enter MAT 9510 or beyond. It may be taken concurrently with MAT 9510, MAT 3504, MAT 3507, MAT 1504 or MAT 1514 (5-0) 5

RDN – Reading

RDN 9130 Basic Reading Skills: This individualized reading course is designed for students who need basic reading skills. Upon completion of this course, students should be able to demonstrate a sixth grade reading level on a standardized test, a mastery of basic phonics, and an understanding of passages written on a sixth grade level. (0-3) 1

RDN 9312 Speed Reading: This course is designed to meet the needs of students and members of the community who want to increase speed in reading. Upon completion of this course, students should demonstrate a 100% increase in reading rate while maintaining an 80% level of comprehension as assessed by a standardized reading test. (3-0) 3

RDN 9502 Building Word Power: This is a reading course for adults who want basic vocabulary development in a structured, but flexible format to help students succeed in other reading, English, and developmental math courses. Upon completion of this course, students should demonstrate knowledge of common Latin and Greek roots and prefixes, including mastery of root and prefix meanings, identification and use of word derivatives in English, and application to new vocabulary. (5-0) 5

RDN 9505 Reading Skills: This course is designed for adults who need fundamental skill development to understand and learn from written material. Upon completion of this course, students should demonstrate mastery of basic vocabulary, comprehension, and study skills. (5-0) 5

***RDN 9510 Reading Improvement:** This course is designed for students who want to improve their ability to read college textbooks. Emphasis is on recognizing typical patterns of organization in textbooks, organizing textbook material for learning, and taking study notes. Vocabulary development, test taking skills, and the interpretation of graphics are also stressed.
*Prerequisite: RDN 9505 or an appropriate placement test score (5-0) 5

English as a Second Language (ESL)

The English as a Second Language program prepares non-native speakers of English to function successfully in institutions of higher education in the United States. Coursework provides knowledge of and practice in academic reading, grammar, listening and speaking, and composition. Among other skills, students learn to make presentations to groups, write a research paper, and take notes from classroom lecturers. Attention is also paid to the student's cultural awareness, particularly to that of the academic environment.

On request, a CPCC certificate will be awarded by the Department for satisfactory completion of the second and fourth levels.

For more information, call the English and Foreign Languages Department - (704) 342-6506.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER					
ESL	9514	Grammar I	4	2	5
ESL	9507	Listening-Speaking I	4	2	5
ESL	9510	Reading I	4	2	5
ESL	9546	Composition I	5	0	5
					20
SECOND QUARTER					
*ESL	9515	Grammar II	4	2	5
*ESL	9508	Listening-Speaking II	4	2	5
*ESL	9511	Reading II	4	2	5
*ESL	9547	Composition II	5	0	5
					20
THIRD QUARTER					
*ESL	9516	Grammar III	5	0	5
*ESL	9509	Listening-Speaking III	5	0	5
*ESL	9412	Reading III	4	0	4
*ESL	9548	Composition III	5	0	5
					19
FOURTH QUARTER					
*ESL	1600	English for Internationals I	5	2	6
*ESL	1601	English for Internationals II	5	2	6
					12

Total Credit Hours for Program 71

ESL ELECTIVES
ESL 9200 Pronunciation
*ESL 9240 TOEFL Preparation
ESL 9307 American Idioms
*Prerequisite is required; check course description for details.

English as a Second Language Course Descriptions

ESL 1600 English for Internationals I: This course is designed to prepare advanced non-native speakers of English for the kinds of writing required in college classes. Upon completion of this course, students should be able to produce college level writings in various organizational formats. Students should also be able to edit their compositions for grammatical correctness in areas such as verb tenses, subject-verb agreement, advanced modals, stative passives, article usage, relative clauses, relative adverbials, adverbial clauses, and word order.
*Prerequisites: ESL9516 and ESL 9548, placement test, or consent of Department Head (5-2) 6

ESL 1601 English for Internationals II: This course is designed for advanced non-native speakers of English. Upon completion, students should be able to understand lectures on academic subjects, to differentiate between main points, supporting information, and extraneous information, and to take down this information in organized notes. Students should also be able to use knowledge of organization style and analysis of writing purpose to comprehend college level texts, focusing on establishing function, identifying main ideas, understanding inferences, and locating factual information.
*Prerequisites: ESL9509 and ESL 9412, placement test, or consent of Department Head (5-2) 6

ESL 9200 Pronunciation: Upon completion of this course, students should recognize common rhythm patterns of English speech, as well as the differences between certain sounds which commonly cause problems for non-native speakers of English and how the physical production of these sounds differ. In addition, they should have improved their own ability to pronounce these patterns and sounds, making it easier to communicate with Americans. (2-0) 2

***ESL 9240 TOEFL Preparation:** This course provides practice with sample TOEFL examinations, analysis of those examinations, awareness of test-taking techniques, and familiarity with reference works which help prepare students for the TOEFL. Upon completion of the course, students should be familiar with the TOEFL format, have identified areas of weakness within their English competency, and have fine-tuned particular aspects of their knowledge of English.
*Prerequisite: ESL 9515, placement test, or consent of Department Head (2-0) 2

ESL 9307 American Idioms: This intermediate course is designed to teach non-native speakers of English the special meaning conveyed through idiomatic expressions. Upon completion of the course, students should be able to define the idioms when they are used in reading passages and conversation and use the idioms correctly in both speech and writing. (3-0) 3

***ESL 9412 Reading III:** This is a high-intermediate reading course for non-native speakers of English. Upon completion, students should be able to recognize basic patterns of organization in English on a paragraph and composition level, identify main ideas, make inferences and draw conclusions, guess word meanings from context, and skim and scan.
*Prerequisite: ESL 9511, placement test, or consent of Department Head (4-0) 4

ESL 9507 Listening/Speaking I: This course is designed to provide the non-English speaking person with basic language skills for essential daily conversation in an academic setting and in the community. Upon completion of this course, students should be able to carry on simple conversations and understand common patterns of speech reduction as they occur in conversation.
(4-2) 5

***ESL 9508 Listening/Speaking II:** This is an intermediate level listening/speaking course for non-native speakers of English. Upon completion of this course, students should be able to hold extended conversations and, in intermediate listening exercises, identify main points, make inferences, and take notes on factual information.
*Prerequisite: ESL 9507, placement test, or consent of Department Head (4-2) 5

***ESL 9509 Listening/Speaking III:** This course is designed to increase the ability and confidence of high-intermediate international students in verbal expression and listening comprehension. Upon completion of this course, students should be able to express politely their feelings, preferences, and impressions; make a 5-minute presentation before a group; in listening exercises, identify main points, make inferences, and take notes on factual information.
*Prerequisite: ESL 9508, placement test, or consent of Department Head (5-0) 5

ESL 9510 Reading I: This course introduces non-native speakers of English to reading English through the use of short, simple passages. Upon completion, students should be able to identify main ideas, make inferences, and locate details in short articles using basic vocabulary. (4-2) 6

***ESL 9511 Reading II:** This course develops the skill of non-native speakers of English through the use of intermediate-level passages about American culture. Upon completion, students should be able to better understand American values and behavior and also be able to identify main ideas, make inferences, locate details, and guess word meaning from context.
*Prerequisite: ESL 9510, placement test, or consent of Department Head (4-2) 5

ESL 9514 Grammar I: This course introduces the non-native speaker to the fundamentals of English grammar. Upon completion of this course, students should be able to use common verbs, nouns, and adjectives in written and oral statements and questions; demonstrate knowledge of simple present, past, and future tenses, as well as present progressive tense; and distinguish between count and non-count nouns. (4-2) 5

***ESL 9515 Grammar II:** This course is designed to increase the basic English grammar skills of non-native speakers of English. Upon completion of this course, students should be able to form and use the present perfect and past perfect and to discriminate between these tenses and other past and present time forms; understand and use basic modal verbs, including selected past-time forms; form and use the passive voice in all tenses; produce sentences which include simple noun clauses and adjective clauses.
*Prerequisite: ESL 9514, placement test, or consent of Department Head (4-2) 5

***ESL 9516 Grammar III:** Upon completion of this course, non-native speakers of English should be able to use adverb clauses of time, cause and effect, unexpected result, and direct opposition; construct sentences using reported speech; use advanced modal auxiliaries; choose between use of gerunds and infinitives; and express real and unreal conditions in the past, present, and future.
*Prerequisite: ESL 9515, placement test, or consent of Department Head (5-0) 5

ESL 9546 Composition I: This course enables non-native speakers of English to integrate basic English vocabulary and grammar in simple compositions. Upon completion of the course, students should be able to use simple sentences, basic transitions, and beginning vocabulary to write three - to four-paragraph narratives and descriptions. (5-0) 5

***ESL 9547 Composition II:** This is an intermediate English composition course for non-native speakers of English. Upon completion, students should be able to write well developed academic paragraphs in various rhetorical styles, and three- or four-paragraph papers with a focus on comparison-contrast and

classification. Students should also be able to locate basic information in the library and incorporate it into essays.
*Prerequisite: ESL 9546, placement test, or consent of Department Head (5-0) 5

***ESL 9548 Composition III:** This is a high-intermediate English composition course for non-native speakers of English. Upon completion, students should be able to write a basic five-paragraph academic composition, including an introduction with a thesis statement, developmental paragraphs with topic sentences and supporting information, and a basic conclusion; use transitional devices to smoothly move between different points; locate periodical sources in the library; use in-text citations; have a beginning understanding of how to integrate information from different sources; and produce a Works Cited page.
*Prerequisite: ESL 9547, placement test, or consent of Department Head (5-0) 5

General Educational Development (GED)

The GED program offers another option for students who have not completed high school and leads to a high school equivalency diploma issued by the North Carolina Department of Community Colleges.

• Admission to the program requires that an individual be at least eighteen years old. A pre-test is administered to evaluate performance levels and determine whether the student is ready for the GED tests or whether preparation is needed through GED classes.

• To earn the GED diploma, a student must pass five individual tests: writing skills (including a written essay), mathematics, science, social studies, and literature.

• Students needing to prepare for the GED tests enroll for classes on the Central Campus or in off-campus centers. These classes allow students to progress at their own pace and to schedule attendance to best suit their needs.

• There is no charge for pre-testing or for GED classes. Students may purchase books to assist with their studies. A fee of $7.50 is charged for the GED tests.

• For more information, call (704)342-6949.

GED - General Educational Development Course Descriptions

GED 6001 General Educational Development: This course prepares students to pass the final GED test. Based on a pre-test, instruction is tailored to meet needs of the individual student either in structured classes on the Central Campus or on an individualized basis at Area Centers. Students complete the course when they earn a cumulative score of 250 on the post-test and/or are certified by the instructor.

GED 6004 General Educational Development (Pre-testing): This course/test determines if a student is prepared for final GED testing. The 4-hour pre-test examines in the areas of writing skills, social studies, science, literature and the arts, and mathematics. A cumulative score of 250 and/or certification by the instructor indicates completion of the course and readiness for the GED exam.

GED 6005 General Educational Development (Final testing): This course/test is the successful completion of the GED battery of test. A cumulative score of 225 with no individual test score below 35 indicates successful completion.

Limited English Proficiency (LEP)

LEP is a component of Adult Basic Education with its goals and the additional objective of teaching English to students who have Limited English Proficiency. Courses are designed to emphasize survival language skills and acculturation at the beginning levels and to provide an integrated continuum to higher level skills. The curriculum is flexible and reflects the needs of the students. Classes meet on the Central Campus and at a variety of locations throughout the community.

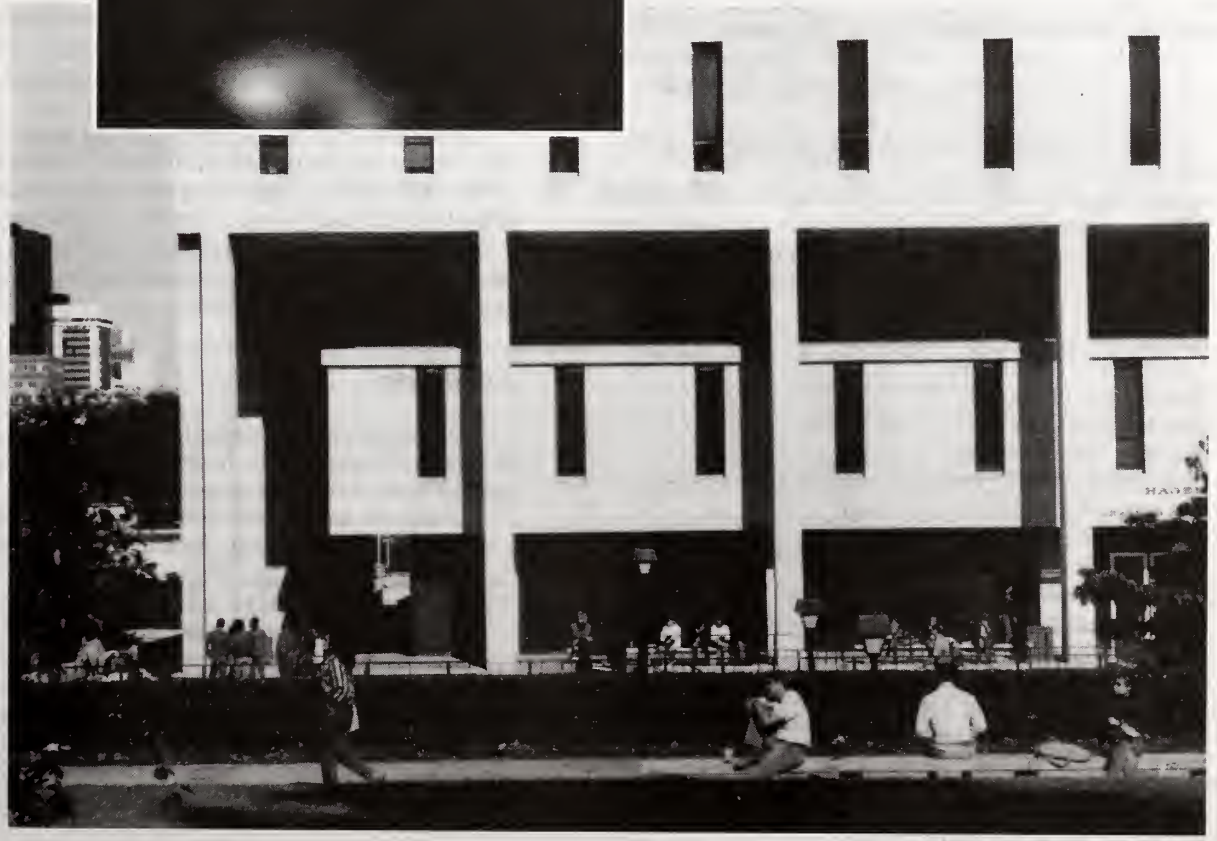
LEP - Limited English Proficiency Course Descriptions

LEP 6001 Limited English Proficiency Level I: Upon completion of this initial survival English course, international students should be able to use fundamental structures of the language and begin to comprehend and use past, future, continuous forms and modal verbs; increase their knowledge of vocabulary and understand fluent speech; speak with less hesitation; and perform basic language functions such as making requests, describing problems and asking directions. Pronunciation, reading and writing should improve measurably through a life skills based approach to learning English

LEP 6002 Limited English Proficiency Level II: Upon completion of this second level, daily living English course, international students should be able to use the major structures of the language including simple, continuous and perfect tenses, modal verbs, articles, gerunds and infinitives; increase their knowledge of vocabulary; and speak with a degree of fluency using newly acquired vocabulary. They will master more advanced language functions such as making appointments, apologizing, complaining, refusing requests and giving congratulations; understand the culture; read practical materials such as application forms, emergency medical information, advertisements and work related information. They will be able to fill out forms, write business and personal letters, and compose business memoranda in a life skills approach to learning English.

LEP 6003 Limited English Proficiency Level III: Upon completion of this third level survival English course, international students should be able to use sophisticated grammatical structures such as the verb tense system in contrast, gerunds, infinitives and verb complements; the passive voice; noun, adverb and adjective clauses, concentrating on self and peer correction of errors; speak fluently and comprehend both aural and written English; discuss their own and others' opinions; write fluently using explanation, comparison and argument with correct writing mechanics.

College-Level Programs



College-Level Programs

Associate in Applied Science (A.A.S) Degrees, Diplomas, & Certificates

Introduction

The programs in the following section are primarily designed for students who intend to enter the workforce without transferring to a four-year college or university. Notations about transferability of some A.A.S. programs are included in program descriptions where this applies.

Some two-year degree programs also have one-year diplomas, as well as certificates that require less than one year of full-time study. These appear in the alphabetical listing of programs contained in this Catalog section.

Requirements

Associate in Applied Science Degrees

• This degree is awarded after completion of a minimum of 96 quarter credit hours or the number of credit hours specified by each area of study, including the required general education courses for that area.

• A minimum of 32 quarter credit hours must be earned at CPCC, 16 of which must be the final credit hours prior to graduation.

•If the student has previously earned an Associate in General Education degree, the student must complete a minimum of 32 additional quarter credit hours for an A.A.S. degree.

• Official copies of high school and all other college/university transcripts must be in the student's folder in the Student Records Office.

Associate in Applied Science Degrees are awarded in the following areas:

Accounting;
Administrative Office Technology;
Air Conditioning, Heating and Refrigeration Technology;
Air Conditioning and Heating Service Technician;
Architectural Technology;
Automotive Service Technician;
Automotive Technology;
Banking and Finance;
Bookkeeping/Clerical;
Business Administration;
Civil Engineering Technology;
Commercial Art/Advertising Design;
Computer Engineering Technology;
Computer Programming, Business;
Correctional and Juvenile Services;
Dental Hygiene;
Early Childhood Associate;
Electrical Engineering Technology;
Electronics Engineering Technology;
Fashion Merchandising and Marketing;
Fire Protection Technology;
Foodservice Management (Chef Training);
General Office;
Graphic Arts – Printing Management;
Health Information Technology;
Horticulture Technology;
Hotel/Restaurant Management;
Human Services Technology;
Industrial Management Technology;
Insurance;
Interior Design;
International Business;
Interpreter Training;
Law Enforcement Technology;
Machining Technology;
Manufacturing Engineering Technology;
Marketing and Retailing;
Mechanical Engineering Technology;
Medical Assisting;
Medical Office Technology;
Microcomputer Systems Technology;
Nursing, Associate Degree (Registered Nursing);
Occupational Health, Safety, and Environmental Technology;
Paralegal Technology;
Physical Therapist Assistant;
Postal Service Technology;
Real Estate;
Respiratory Care Technology (Therapists and Technicians);
Secretarial – Legal;
Surveying Technology;
Traffic and Transportation;
Travel and Tourism.

Diplomas

Diplomas are awarded after completion of a minimum of 64 quarter credit hours of required courses in the student's program of vocational career study.

The final 15 quarter credit hours must be earned at CPCC.

Official copies of high school and all other college/university transcripts must be in the student's folder in the Student Records Office.

Diplomas are awarded in the following areas: Air Conditioning, Heating and Refrigeration; Automotive Body Repair; Automotive Mechanics; Computer Operations; Dental Assisting; Diesel Vehicle Maintenance; Electrical Installation and Maintenance; Foodservice (Chef Training); Graphic Arts - Printing; Horticulture; Machinist; Mechanical Drafting; Medical Assisting; Nursing, Practical; Welding.

Certificates

Certificates may be awarded to a graduate of a curriculum of fewer than 64 quarter credit hours in length including the required courses in the student's program of study.

Certificates are awarded in Basic Law Enforcement, Cytotechnology, Data Entry, Insurance (Technical Specialty), Insurance (Advanced Specialty), Medical Transcription, Real Estate (Technical Specialty), and Real Estate Appraisal.

Course requirements for specialized certificates are listed with the degree/diploma programs to which the certificates belong. Specialized certificates are awarded in the following programs: Air Conditioning, Heating and Refrigeration; Automotive Body Repair; Automotive Mechanics; Automotive Technology; Banking and Finance; Diesel Vehicle Maintenance; Early Childhood Associate; Electrical Installation and

Maintenance; Graphic Arts; Human Services Technology; Medical Assisting; Paralegal Technology; Postal Service Technology; Welding.

General Education Goals

Through its general education program, Central Piedmont seeks to provide a high quality of education for its students and to ensure that graduates have the necessary knowledge, skills, and abilities to function effectively in their personal and professional lives.

Central Piedmont Community College defines general education education as acquiring and integrating the general knowledge, intellectual skills, attitudes, and experiences needed by an individual to

1. achieve a level of competency appropriate for a two-year college graduate,
2. prepare for advanced work and life-long learning, and
3. function more fully as a person and as a member of society.

The following goals identify the essence of a general education. Although some of these competencies may be achieved primarily through successful completion of particular courses, students should have the opportunity to develop and use many of these skills throughout their programs.

I. COMMUNICATIONS

Students should be able to communicate orally and in writing clearly and coherently, read with understanding, and listen perceptively, all at a level appropriate to their degrees or their occupational goals. They should understand how to locate, evaluate, and present information effectively to an appropriate audience. These goals incorporate the ability to think critically or analytically so that students can evaluate and communicate ideas.

II. MATHEMATICAL SKILLS

Students should be able to apply mathematical concepts and skills to interpret, understand, and communicate quantitative data in their personal, professional, and academic endeavors.

III. SCIENCE AND TECHNOLOGY

Students should understand the basic principles of science which govern the physical and natural world, and they should be sensitive to the impact of technology on the individual, on society, and on the natural environment. Students should acquire the skills to use computers in their personal and professional lives.

IV. PROBLEM SOLVING AND CRITICAL THINKING

Students should develop critical thinking skills that will allow them to analyze a variety of problems, select or create possible solutions, assess the impact of the solutions, and make informed judgments.

V. HUMANITIES

Students should develop an awareness of the humanities to broaden their understanding of their own culture and the cultures of other places and times. They should also have the opportunity to recognize and develop their own creative skills.

VI. INTERNATIONAL AWARENESS

Students should recognize the interdependence of all the world's peoples and demonstrate an awareness and understanding of the similarities and differences among the world's societies and cultures.

VII. SELF AND SOCIETY

Students should demonstrate an increased awareness of their own values, beliefs, and behaviors as well as the values, beliefs and behaviors of others. Through knowledge and experience, students should develop their abilities to work as members of groups and work with people who are different from themselves. Students should also have an increased understanding of American culture and society so that they are able to participate more effectively in the political and economic life of the United States. Students should improve their abilities to make decisions about education and employment based on their skills and interests and on the needs of the community.

General Education Goals-Course Requirements

Central Piedmont Community College seeks to provide a high quality of education for its students and to ensure that graduates have the necessary knowledge, skills, and abilities to function effectively in their personal and professional lives. In order to meet this goal, the following General Education Requirements apply to all A.A.S. degree graduates:

Although the Associate in Applied Science degree is not designed for transfer, some programs will transfer to some institutions. A bullet (•) denotes those course which are most commonly included in general education programs at transfer institutions. Students should consult their advisor or counselor regarding specific requirements and transferability of their program to other institutions.

I. Communications: Students must complete two ENG courses and one SPH course from the following:

- ENG 1504 English Composition I and
- ENG 1505 English Composition II or ENG 3405 Technical English II
- SPH 1300 Oral Communications, • SPH 1301 Persuasive Speaking, • SPH 2304 Public Speaking or SPH 3300 Business and Professional Speech Communication.

II. Mathematical Skills: Students must complete at least one course from the following:

FIN 3314 Business Mathematics I (If you choose this course, you must take the lab science required under Goal III Area I.)

MAT 3325 General College Mathematics

- MAT 1504 College Algebra I
- MAT 1505 College Algebra II
- MAT 1514 Precalculus Mathematics I
- MAT 1515 Precalculus Mathematics II

MAT 3504 Technical Mathematics I

MAT 3505 Technical Mathematics II

MAT 3507 Engineering Technology Mathematics I

MAT 3508 Engineering Technology Mathematics II

III. Science and Technology: Students must complete at least one course from each of the following areas:

Area I Any laboratory science or
SCI 3300 Principles of Science

Area II Any EDP course numbered 1000-4999 (*1000-2999 for transfer) or

Any computer based course approved by the Dean and taught within a department (check program requirements)

IV. Problem Solving and Critical Thinking

Problem solving and critical thinking are incorporated throughout the curriculum at Central Piedmont.

V. Humanities: Students must complete at least one course from the following list:

A. Modern Language
- FRE 2600 Intermediate French I
- FRE 2601 Intermediate French II
- GER 2600 Intermediate German I
- GER 2601 Intermediate German II

IPP 1601 Sign Language I
IPP 1602 Sign Language II
- SPA 2600 Intermediate Spanish I
- SPA 2601 Intermediate Spanish II

B. Literature and Philosophy
- ENG 1333 Science Fiction
- ENG 2504 British Literature, 1300 - 1800
- ENG 2505 British Literature, 1800 - Present
- ENG 2514 American Literature, 1800 - 1900
- ENG 2515 Modern American Literature
- ENG 2510 World Literature to 1700
- ENG 2511 World Literature, 1700 to Present
- PHI 1500 Philosophy

C. The Arts

ART 1300 Introduction to Art I
ART 1301 Introduction to Art II
ART 1310, 1311 History of Art I, II or
ART 1311, 1312 History of Art II, III
DAN 1384, 1385 Dance History I, II or
DAN 1385, 1386 Dance History II, III
DRA 1500 Introduction to Drama
DRA 2414 Film Criticism
MUS 1314 Music Appreciation I
MUS 1315 Music Appreciation II

D. Humanities

HUM 1300 Ascent of Man
HUM 1319 Mythology
HUM 1510 Writers and Revolutionaries
- HUM 1500 Humanities - Classical to Medieval
- HUM 1501 Humanities - Renaissance to Present

E. Speech

SPH 2310 Intercultural Communications

VI. International Awareness: Students must complete at least one course from the following list:

ANT 1502 General Anthropology
DAN 1384 Dance History I
DAN 1385 Dance History II
DRA 2414 Film Criticism
- ECO 2306 Economics III
- ENG 2510 World Literature to 1700
- ENG 2511 World Literature, 1700 to Present
- HIS 1500 World Civilization I
- HIS 1501 World Civilization II

HUM 1510 Writers and Revolutionaries
INT 3300 Introduction to International Business
POL 1510 Comparative Politics
POL 1511 International Relations
POL 2501 Political Ideologies
SPH 2310 Intercultural Communications

Any department course meeting the International Awareness goal and approved by the Dean (check program requirements)

VII. Self and Society: Students must complete at least one course from the following:

A. Economics
- ECO 2304 Economics I
- ECO 2305 Economics II

B. History and Political Science
- HIS 1500 World Civilization I
- HIS 1501 World Civilization II
- HIS 1502 American History I
- HIS 1503 American History II

HIS 1504 Recent American History
HIS 1520 African-American History I
HIS 1521 African-American History II
HIS 2500 North Carolina History
- POL 1502 American Politics

POL 2501 Political Ideologies

C. Human Services

HSA 3502 Interpersonal Relationships I

D. Psychology and Sociology

PSY 1500 Psychology of Adjustment
- PSY 2504 General Psychology

PSY 2505 Human Development
PSY 1300 The Self and Society
SOC 1500 Sociology of the Family
- SOC 2514 Introduction to Sociology

SOC 2515 Social Problems

Accounting (T016)

Official Program Description registered with the NC Department of Community Colleges:

The purpose of the Accounting curriculum is to prepare the individual to enter the accounting profession through study of accounting principles, theories and practices with related study in law, finance, management, and data processing operations.

The curriculum is designed to prepare the individual for entry-level accounting positions such as junior accountant, bookkeeper, accounting clerk, cost clerk, payroll clerk, and related data processing occupations.

With experience and additional education, the individual will be able to advance to positions such as systems accountant, cost accountant, budget accountant, and property accountant.

Degree Awarded

The Associate in Applied Science Degree – Accounting is awarded by the College upon completion of this program.

Note

Students interested in transferring to a senior institution should enroll in the 1000- and 2000-level mathematics and English courses noted in the footnotes that follow. Students should also consult with a Faculty Advisor or Program Counselor regarding the transferability of this program to senior institutions.

For More Information

The Accounting program is in the Accounting/Public Safety Department. For more information, call the Program Director – (704)342-6545, weekdays, 7:30 a.m.-4:30 p.m. Program Counselors can be reached at (704)342-6426 or 6550.

Admissions

- High School Diploma or equivalent is required.
- CPCC placement tests are required in English, mathematics, and reading.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll:

Call the Welcome Center – (704) 342-6719.

Major and Related Course Requirements

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC 1604	**Principles of Accounting I**	**5**	**2**	**6**
*ACC 1605	Principles of Accounting II	5	2	6
*ACC 2626	Intermediate Accounting I	5	2	6
*ACC 2627	Intermediate Accounting II	5	2	6
ACC 4434	Taxes - Individual	3	2	4
*ACC 4425	Taxes - Business & Fiduciary	3	2	4
*ACC 4414	Microcomputer Accounting - General Ledger	2	4	4
*ACC 4415	Microcomputer Accounting - Spreadsheets	2	4	4
*ACC 4404	Auditing	3	2	4
*ACC 4444	Cost Accounting	3	2	4
*ACC 4447	Advanced Accounting	3	2	4
*ECO 2305	Economics II	3	0	3
*FIN 4334	Business Finance I	3	0	3
*FIN 4335	Business Finance II	3	0	3
*FIN 3315	Business Mathematics II	3	0	3
*EDP 3324	Advanced Microcomputer Operations	1	4	3
*EDP 3215	Microcomputer Software Lotus 1-2-3	1	2	2
*BUS 2304	Business Law I	3	0	3
*BUS 2305	Business Law II	3	0	3
SEC 3104	Electronic Calculators	0	2	1
TECHNICAL ELECTIVES		7	0	7
				83

General Education Core Requirements

***ENG 1504**	**English Composition I**	**5**	**0**	**5**
*ENG 3405	Technical English II or	4	0	4
*ENG 1505	English Composition II+			
SPH 1300	Oral Communications	3	0	3
FIN 3314	**Business Mathematics I+**	**3**	**0**	**3**
SCIENCE AND TECHNOLOGY ELECTIVE: Choose any laboratory science course listed under General Education Goal III Area I (Except SCI 3301).		3	0	3
*EDP 3310	Microcomputer Operations	2	2	3
HUMANITIES ELECTIVE: Choose any course listed under General Education Goal V.		3	0	3
INTERNATIONAL AWARENESS ELECTIVE: Choose any course listed under General Education Goal VI.		3	0	3
ECO 2304	Economics I	3	0	3
				30

Total Credit Hours 113

Technical Electives: With the approval of an adviser, students may select seven hours from the following:

*ACC 4284	Cooperative Work Experience I	0	0	2
*ACC 4285	Cooperative Work Experience II	0	0	2
ACC 4308	International Accounting	3	0	3
BUS 1500	Introduction to Business	5	0	5
*BUS 2306	Business Law III	3	0	3
BUS 3300	Human Relations	3	0	3
BUS 3304	Business Statistics	3	0	3
*ECO 2306	Economics III	3	0	3
*EDP 3217	Microcomputer Software - Data Base	1	2	2
*EDP 3335	Microcomputer Programming - MS/DOS	2	2	3
FIN 3303	Personal Investing	3	0	3
*FIN 4317	Financial Statement Analysis	3	0	3
*FIN 4336	Financial Management	3	0	3
FIN 4336	Personal Financial Management	3	0	3
*INT 3300	Introduction to International Business	3	0	3
SEC 3303	Keyboarding**	1	4	3
SEC 4305	Business Communication	3	0	3
MAT 3325	General College Mathematics	3	0	3

* Prerequisite or corequisite is required; check course description for details.

** SEC 3303 is required if the student has not had a typing course.

\+ MAT 1504, 1505, or 1514 should be taken in lieu of FIN 3314 and FIN 3315, and ENG 1505 in lieu of ENG 3405 for students who may later transfer.

Administrative Office Technology (T030)

Official Program Description registered with the NC Department of Community Colleges:

This curriculum prepares individuals to perform secretarial and administrative support duties in a variety of offices including those offices with computerized, automated functions.

Students in this curriculum study keyboarding and word/ information processing to develop skills in the preparation of business correspondence, reports, statistical copy, manuscripts and business forms. Administrative support courses emphasize typical office tasks such as scheduling appointments, composing correspondence and performing reprographic duties. Training is also provided in analyzing and coordinating office duties and systems. Skills and knowledge are developed in the areas of electronic document storage and retrieval and computer software utilization.

Graduates of the program may be employed in offices in private business establishments involved in retailing, marketing, advertising, and manufacturing as well as in local, state, and federal government.

Degree Awarded

The Associate in Applied Science Degree – Administrative Office Technology is awarded by the College upon completion of this program.

For More Information

The Administrative Office Technology program is in the Computer and Office Information Systems Department. For more information, call the Program Director – (704)342-6781, the Program Counselors- (704)342-6426 or 6229, or the Department office – (704)342-6549, weekdays, 9 a.m.-4 p.m.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests determine the placement in English (ENG) and mathematics (MAT) courses.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll:

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
	SEC 3303	**Keyboarding I**	**1**	**4**	**3**
*	SEC 3405	Document Formatting I	3	2	4
*	SEC 3406	Document Formatting II	3	2	4
	SEC 4324	**Information Processing Concepts**	**3**	**0**	**3**
	SEC 3302	Effective Word Techniques	3	0	3
	SEC 3305	Editing, Proofreading & Reference Skills	3	0	3
*	SEC 4305	Business Communications	3	0	3
	SEC 3411	**Notetaking**	**3**	**2**	**4**
	SEC 3320	Personal Projections	3	0	3
*	SEC 4429	Word Processing I	3	2	4
*	SEC 4430	Word Processing II	3	2	4
*	SEC 4435	Word Processing for Windows	3	2	4
*	SEC 4407	Document Production	3	2	4
	SEC 3104	Electronic Calculators	0	2	1
	SEC 4370	Records Management	3	0	3
*	SEC 4517	General Office Procedures	5	0	5
*	SEC 4425	Machine Transcription	3	2	4
*	SEC 4201	Cooperative Work Experience I	0	20	2
*	EDP 3215	Microcomputer Software - LOTUS 1-2-3	1	2	2
*	EDP 3217	Microcomputer Software - dBASE	1	2	2
	ENG 3515	**Essentials of Grammar**	**5**	**0**	**5**
	BUS 3300	Human Relations	3	0	3
	BUS 2304	Business Law I	3	0	3
	ACC 3600	General Accounting or			
	ACC 1604	Principles of Accounting I	5	2	6
	MGT 4331	Administrative Office Management	3	0	3
	TECHNICAL ELECTIVE		2	0	2
					87
General Education Core Requirements:					
*	ENG1504	English Composition I	5	0	5
*	ENG 3405	Technical English II	4	0	4
	SPH 1300	Oral Communications or			
	SPH 3300	Business and Professional Speech Communication	3	0	3
*	MAT 3325	General College Mathematics	3	0	3
	SCI 3300	Principles of Science	3	0	3
	EDP 3310	**Microcomputer Operations**	**2**	**2**	**3**
	Humanities Elective: Choose any course listed under General Education Goal V.		3	0	3
	International Awareness Elective: Choose any course listed under General Education Goal VI.		3	0	3
	ECO 2304	Economics I	3	0	3
					30
Total Credit Hours					117

Technical Electives:

With the approval of an advisor, students may select 2 hours from the following:

*	SEC 4400	Typing Skill Building	3	2	4
	SEC 3311	Receptionist Skills	3	0	3
*	SEC 4202	Cooperative Work Experience II	0	20	2
*	SEC 3414	Shorthand I	3	2	4
*	SEC 3324	Advanced Microcomputer Operations	1	4	3

* Prerequisite or corequisite is required; check course description for details.

Air Conditioning, Heating and Refrigeration (V024)

Official Program Description registered with the NC Department of Community Colleges:

The Air Conditioning, Heating and Refrigeration curriculum is designed to teach knowledge and skills necessary for servicing and installing residential and light commercial climate control equipment. Instruction will include heating and cooling theory, applied electricity and electronics, and the operating principles for a wide range of heating and cooling equipment. The diploma program will emphasize start-up and service skills for oil, gas and electric furnaces, air-cooled air conditioning and air-to-air heat pumps.

Diploma Awarded

A Diploma in Air Conditioning, Heating and Refrigeration is awarded by the College upon completion of this program.

Graduates may apply for advanced standing in the Air Conditioning, Heating and Refrigeration Technology program.

For More Information

The Air Conditioning, Heating and Refrigeration program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6985 or 6890, or the Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Note

Basic tools are required for some courses. A list may be obtained through the instructor.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area.
- **Students entering this program should take the courses in bold print first if at all possible.**

First step to Enroll:

Call the Welcome Center -(704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
* AHR 5204	Wiring Diagrams and Troubleshooting for A/C Systems	1	3	2
*** AHR 5224**	**A/C, Heating and Refrigeration Blueprint Reading**	**1**	**2**	**2**
* AHR 5230	Basic Electronics for Air Conditioning, Heating & Refrigeration	2	0	2
*** AHR 5301**	**Basic Electricity**	**3**	**0**	**3**
*** AHR 5312**	**Shop Practices**	**2**	**3**	**3**
*** AHR 5313**	**Refrigeration Service Principles**	**2**	**3**	**3**
* AHR 5314	Automatic Controls	2	3	3
* AHR 5321	Commercial Refrigeration Installation	2	3	3
* AHR 5322	Commercial Refrigeration Service	2	3	3
* AHR 5323	Oil Burners	2	3	3
* AHR 5333	Liquid Heat — 1-Pipe and 2-Pipe Systems	2	3	3
* AHR 5341	Gas Heat	2	3	3
* AHR 5342	Electric Heat	2	3	3
* AHR 5443	All Weather Systems Conventional	3	3	4
* AHR 5444	All Weather Systems Heat Pumps	2	6	4
* AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating, & Refrigeration Mechanics	4	0	4
AHR 5411	**Air Conditioning, Heating and Refrigeration Fundamentals**	**4**	**0**	**4**
* AHR 5431	Air Conditioning – Residential/ Commercial	3	3	4
ENG 5500	Communications Skills	5	0	5
HSA 5200	Human Relations	2	0	2
PHY 5304	Shop Science I	2	2	3
WLD 5210	Basic Oxyacetylene Welding	1	3	2

Total Credit Hours 71

* Prerequisite or corequisite is required; check course description for details.

Air Conditioning, Heating and Refrigeration Certificates

(V024–A, B, C, D; T036–A, B, C)

Specialization Certificates

The certificates listed below can be earned in the Air Conditioning, Heating and Refrigeration (V024) program; the Air Conditioning and Refrigeration Technology (T036) program; and the Air Conditioning and Heating Service Technician (T215) program.

For More Information

For more information, call the Program Director – (704)342-6985, or the Technical Careers Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Air Conditioning, Heating and Refrigeration Certificate With a Specialization in Heating Service (V024-A)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
* AHR 5204	Wiring Diags and Troubleshooting for A/C Systems	1	3	2
AHR 5224	A/C, Heating and Refrigeration Blueprint Reading	1	2	2
AHR 5301	Basic Electricity	3	0	3
AHR 5312	Shop Practices	2	3	3
* AHR 5323	Oil Burners	2	3	3
* AHR 5341	Gas Heat	2	3	3
* AHR 5342	Electric Heat	2	3	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
AHR 5411	A/C, Heating & Refrigeration Fundamentals	4	0	4

Total Credit Hours 30

* Prerequisite or corequisite is required; check course description for details.

Air Conditioning, Heating and Refrigeration Certificate With a Specialization in Air Conditioning Service (V024-B)

* AHR 5204	Wiring Diags and Troubleshooting for A/C Systems	1	3	2
AHR 5224	A/C, Heating and Refrigeration Blueprint Reading	1	2	2
AHR 5301	Basic Electricity	3	0	3
AHR 5312	Shop Practices	2	3	3
AHR 5313	Refrigeration Service Principles	2	3	3
* AHR 5314	Automatic Controls	2	3	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
AHR 5411	A/C, Heating and Refrigeration Fundamentals	4	0	4
*AHR 5431	A/C – Residential/Commercial	3	3	4

Total Credit Hours 31

* Prerequisite or corequisite is required; check course description for details.

Air Conditioning, Heating and Refrigeration Certificate With a Specialization in Refrigeration Service (V024-C)

*AHR 5204	Wiring Diagrams and Troubleshooting for A/C Systems	1	3	2
AHR 5224	A/C, Heating and Refrigeration – Blueprint Reading	1	2	2
AHR 5301	Basic Electricity	3	0	3
AHR 5312	Shop Practices	2	3	3
AHR 5313	Refrigeration Service Principles	2	3	3
* AHR 5314	Automatic Controls	2	3	3
AHR 5321	Commercial Refrigeration Installation	2	3	3
AHR 5322	Commercial Refrigeration Service	2	3	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
AHR 5411	A/C, Heating and Refrigeration Fundamentals	4	0	4

Total Credit Hours 33

* Prerequisite or corequisite is required; check course description for details.

Air Conditioning, Heating and Refrigeration Certificate With a Specialization in All Weather Systems Service (V024-D)

* AHR 5204	Wiring Diagrams and Troubleshooting for A/C Systems	1	3	2
AHR 5224	A/C, Heating and Refrigeration – Blueprint Reading	1	2	2
AHR 5301	Basic Electricity	3	0	3
AHR 5312	Shop Practices	2	3	3
AHR 5313	Refrigeration Service Principles	2	3	3
* AHR 5314	Automatic Controls	2	3	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
AHR 5411	A/C, Heating and Refrigeration Fundamentals	4	0	4
* AHR 5443	All Weather Systems - Conventional	3	3	4
* AHR 5444	All Weather Systems - Heat Pumps	2	6	4

Total Credit Hours 35

* Prerequisite or corequisite is required; check course description for details.

Air Conditioning, Heating, and Refrigeration Technology Certificate With a Specialization in Residential Air Conditioning Design (T036-A)

* AHR 4304	Introduction to Psychrometrics	3	0	3
* AHR 4325	A/C, Heating and Refrigeration Drawing and Sketching	1	4	3
* AHR 4361	Residential Air Distribution and Balance	2	2	3
* AHR 4452	Residential A/C Systems Design	3	2	4
AHR 5224	A/C, Heating and Refrigeration – Blueprint Reading	1	2	2
AHR 5313	Refrigeration Service Principles	2	3	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
AHR 5411	A/C, Heating and Refrigeration Fundamentals	4	0	4

Total Credit Hours 29

* Prerequisite or corequisite is required; check course description for details.

Air Conditioning, Heating, and Refrigeration Technology Certificate With a Specialization in Refrigeration Design (T036-B)

* AHR 4325	A/C, Heating and Refrigeration Drawing and Sketching	1	4	3
* AHR 4451	Commercial Refrigeration Systems Design	4	0	4
AHR 5224	A/C, Heating and Refrigeration – Blueprint Reading	1	2	2
AHR 5312	Shop Practices	2	3	3
AHR 5313	Refrigeration Service Principles	2	3	3
* AHR 5321	Commercial Refrigeration Installation	2	3	3
* AHR 5322	Commercial Refrigeration Service	2	3	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
AHR 5411	A/C, Heating and Refrigeration Fundamentals	4	0	4

Total Credit Hours 32

* Prerequisite or corequisite is required; check course description for details.

Air Conditioning, Heating, and Refrigeration Technology Certificate With a Specialization in Commercial Air Conditioning Design (T036-C)

* AHR 4304	Introduction to Psychrometrics	3	0	3
* AHR 4325	A/C, Heating and Ref – Drawing and Sketching	1	4	3
* AHR 4372	Hydronic Distribution Systems Design and Balance	3	0	3
* AHR 4453	Commercial Air Conditioning Systems Design	3	2	4
* AHR 4462	Commercial Air Distribution and Balance	3	2	4
AHR 5224	A/C, Heating and Refrigeration – Blueprint Reading	1	2	2
AHR 5312	Shop Practices	2	3	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration	4	0	4
AHR 5411	A/C, Heating, and Refrigeration Fundamentals	4	0	4

Total Credit Hours 33

* Prerequisite or corequisite is required; check course description for details.

Air Conditioning, Heating and Refrigeration Technology (T036)

Official Program Description registered with the NC Department of Community Colleges:

The Air Conditioning, Heating and Refrigeration Technology curriculum develops an understanding of the principles involved in designing, planning, installing, operating, troubleshooting and organizing maintenance of climate control equipment and systems. Graduates of the Air Conditioning, Heating and Refrigeration Technology curriculum should be able to assist in planning installations, designing systems, and organizing maintenance and work scheduling. In addition, they should be able to assist in installing, servicing and operating environmental control systems in residential and commercial establishments.

Job opportunities exist with companies that specialize in residential, commercial and industrial air conditioning, heating and refrigeration systems, design, installation and service. The graduate should be able to assist in designing mechanical equipment, ductwork and electrical controls required in residential and commercial projects. With experience, the graduate should be able to design various air conditioning, heating and refrigeration systems and function efficiently in working with systems designers, engineers, mechanics, sales engineers and others in the field. The technician may be employed in areas of systems design, engineering assistance, estimating, sales, maintenance scheduling, installation, and service management in the growing field of air conditioning, heating and cooling.

Degree Awarded

The Associate in Applied Science Degree – Air Conditioning, Heating and Refrigeration is awarded by the College upon completion of this program.

For More Information

The Air Conditioning, Heating and Refrigeration Technology program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6985 or 6890, or the Department office – (704)342-6930,

weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Note

Basic tools are required for some courses. A list may be obtained from instructor.

Admissions

- High School Diploma or equivalent is required
- **Students entering this program should take courses in bold print first if at all possible.**
- Certificates that can be earned in the Air Conditioning, Heating and Refrigeration Technology (T036) Program are listed after the Air Conditioning, Heating, and Refrigeration (V024) Program.

First step to Enroll

Call the Welcome Center -(704)342-6719.

Major and Related Course Requirements:

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AHR 4304	Introduction to Psychrometrics	3	0	3
AHR 4325	Air Conditioning, Heating and Refrigeration Drawing and Sketching	1	4	3
AHR 4361	Residential Air Distribution and Balance	2	2	3
*AHR 4372	Hydronic Distribution Systems Design and Balance	3	0	3
*AHR 4451	Commercial Refrigeration Systems Design	4	0	4
*AHR 4453	Commercial Air Conditioning Systems Design	3	2	4
*AHR 4462	Commercial Air Distribution and Balance	3	2	4
*AHR 4463	Control Systems	3	2	4
*AHR 4471	Installation and Service Problems	2	6	4
*AHR 5204	Wiring Diagrams and Troubleshooting for A/C Systems	1	3	2
AHR 5224	**A/C, Heating and Refrigeration Blueprint Reading**	**1**	**2**	**2**
AHR 5301	**Basic Electricity**	**3**	**0**	**3**
AHR 5312	**Shop Practices**	**2**	**3**	**3**
AHR 5313	**Refrigeration Service Principles**	**2**	**3**	**3**
AHR 5314	Automatic Controls	2	3	3
*AHR 5321	Commercial Refrigeration Installation	2	3	3
*AHR 5322	Commercial Refrigeration Service	2	3	3
*AHR 5323	Oil Burners	2	3	3
*AHR 5341	Gas Heat	2	3	3
*AHR 5342	Electric Heat	2	3	3
*AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration Technicians	4	0	4
AHR 5411	**Air Conditioning, Heating and Refrigeration Fundamentals**	**4**	**0**	**4**
*AHR 5431	Air Conditioning-Residential/ Commercial	3	3	4
*AHR 5443	All Weather Systems-Conventional	3	3	4
*AHR 5444	All Weather Systems-Heat Pumps	2	6	4
WLD 5210	Basic Oxyacetylene Welding	1	3	2
TECHNICAL ELECTIVE				4
				92

General Education Core Requirements:

*ENG 1504	English Composition I	5	0	5
*ENG 3405	Technical English II+	4	0	4
SPH 1300	Oral Communication	3	0	3
*MAT 3325	General College Mathematics+	3	0	3
PHY 5304	Applied Physics I or PHY 3301	2	2	3
AHR 4452	Residential Air Conditioning Systems Design	3	2	4
SPH 2310	Intercultural Communications	3	0	3
	Self and Society Elective: Student may choose any course from Goal VII.	3	0	3
				28

Total Credit Hours 120

+ MAT 1504, 1505, or 1514 should be taken in lieu of MAT 3325, and ENG 1505 in lieu of ENG 3405 for students who may later transfer.

* Prerequisite or corequisite required; check course descriptions.

Technical Electives:

*AHR 5230	Basic Electronics for Air Conditioning, Heating, and Refrigeration	2	0	2
*AHR 5333	Liquid Heat – 1-Pipe and 2-Pipe Systems	2	3	3
*AHR 5205	In Place Co-Op I	0	20	2
*AHR 5206	In Place Co-Op II	0	20	2

Air Conditioning and Heating Service Technician (T215)

Official Program Description registered with the NC Department of Community Colleges:

The Air Conditioning and Heating Service Technician curriculum is comprised of technical and related instruction in the classroom and laboratories, cooperative education training in a related business or industry, and general academic subjects.

The Cooperative work phase of the program requires students to be employed in supervised air conditioning and heating service positions to receive on-the-job experience. The cooperative work phase of the program will be supervised and evaluated.

Graduates should be able to assist in the service of residential and commercial systems, in planning installations, designing systems, and organizing maintenance and work scheduling.

Degree Awarded

The Associate in Applied Science Degree – Air Conditioning and Heating Service Technician is awarded by the College upon completion of this program.

For More Information

The Air Conditioning and Heating Service Technician program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6985 or 6890, or the Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Note

Basic tools are required for some courses. A list may be obtained from instructor.

Certificates that can be earned in the Air Conditioning and Heating Service Technician (T215) Program are listed after the Air Conditioning, Heating, and Refrigeration (V024) Program.

Admissions

- High School Diploma or equivalent is required
- **Students entering this program should take courses in bold print first if at all possible.**

First step to Enroll

Call the Welcome Center - (704)342-6719.

Major and Related Course Requirements:

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
* AHR 4325	Air Conditioning, Heating and Refrigeration Drawing and Sketching	1	4	3
* AHR 4361	Residential Air Distribution and Balance	2	2	3
* AHR 4372	Hydronic Distribution Systems Design and Balance	3	0	3
* AHR 4453	Commercial Air Conditioning System Design	3	2	4
* AHR 4462	Commercial Air Distribution and Balance	3	2	4
* AHR 5204	Wiring Diagrams and Troubleshooting for Air Conditioning Systems	1	3	2
AHR 5224	**Air Conditioning, Refrigeration and Heating Blueprint Reading**	**1**	**2**	**2**
* AHR 5230	Basic Electronics for Air Conditioning and Heating	2	0	2
AHR 5301	**Basic Electricity**	**3**	**0**	**3**
* AHR 4304	Introduction to Psychrometrics	3	0	3
AHR 5312	**Shop Practices**	**2**	**3**	**3**
AHR 5313	**Refrigeration Service Principles**	**2**	**3**	**3**
AHR 5314	Automatic Controls	2	3	3
* AHR 5323	Oil Burners	2	3	3
* AHR 5341	Gas Heat	2	3	3
* AHR 5342	Electric Heat	2	3	3
* AHR 5346	Air Conditioning and Heating Service Co-Op I	0	0	3
* AHR 5347	Air Conditioning and Heating Service Co-Op II	0	0	3
* AHR 5348	Air Conditioning and Heating Service Co-Op III	0	0	3
* AHR 5349	Air Conditioning and Heating Service Co-Op IV	0	0	3
* AHR 5394	Mechanical Codes	3	0	3
AHR 5401	Basic Calculations for Air Conditioning, Heating and Refrigeration Technicians	4	0	4
AHR 5411	**Air Conditioning, Heating and Refrigeration Fundamentals**	**4**	**0**	**4**
* AHR 5431	Air Conditioning-Residential/ Commercial	3	3	4
* AHR 5443	All Weather Systems-Conventional	3	3	4
* AHR 5444	All Weather Systems-Heat Pumps	2	6	4
WLD 5210	Oxyacetylene Welding	1	0	2
				84

General Education Core Requirements:

* AHR 4452	Residential Air Conditioning Systems Design	3	2	4
* ENG 1504	English Composition I	5	0	5
* ENG 3405	Technical English II[+]	4	0	4
* MAT 3325	General College Mathematics[+]	3	0	3
PHY 5304	Applied Physics I or PHY 3301	2	2	3
SPH 1300	Oral Communications	3	0	3
SPH 2310	Intercultural Communications	3	0	3
	Self and Society Elective: Student may choose any course from Goal VII.	3	0	3
				28

Total Credit Hours 112

[+] MAT 1504, 1505, or 1514 should be taken in lieu of MAT 3325, and ENG 1505 in lieu of ENG 3405 for students who may later transfer.

* Prerequisite or corequisite is required; check course description for details.

Architectural Technology (T041)

Official Program Description registered with the NC Department of Community Colleges:

The Architectural Technology curriculum provides individuals with knowledge and skills that will lead to employment and advancement in the field of architectural technology. Technical courses are included which will enable the graduate to advance into related areas of work as job experience is obtained or continue toward an advanced degree in an associated field of technology. Architectural technicians translate the architect's design sketches into complete and accurate plans and drawings for construction purposes. The technician will be involved in work requiring a knowledge of drafting, construction materials, mechanical and structural systems, estimating, building codes and specifications. Initial employment opportunities exist with architectural and engineering firms, private utilities, contractors, and municipal governments.

Degree Awarded

The Associate of Applied Science Degree – Architectural Technology is awarded by the College upon completion of this program.

Program Accreditation

The Architectural Technology Program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

General Information

The curriculum at Central Piedmont Community College includes emphasis on computer-aided drafting (CAD) and related computer courses to prepare graduates for employment in the expanding CAD area.

For More Information

For more information, call the admissions counselor – (704)342-6881 or the Architectural Technology Program Director at (704)342-6548 or 6913, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required.
- CPCC Placement tests are required in English and mathematics. Advancement studies (9000-series) math and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.

First step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS SHP /WK	HRS CLC /WK	HRS CR /QTR
Major and Related Course Requirements:						
	ARC 3100	Orientation	1	0	0	1
*	ARC 3314	Architectural Computer Drafting I (AutoCAD)	1	0	6	3
*	ARC 3315	Architectural Computer Drafting II (AutoCAD)	1	0	6	3
*	ARC 3316	Architectural Computer Drafting III (AutoCAD 3-D)	1	0	6	3
	ARC 3334	Basic Architectural Drawing	1	0	6	3
*	ARC 3335	Residential Working Drawings	1	0	6	3
*	ARC 3336	Commercial Working Drawings	1	0	6	3
	ARC 4200	Architectural Blueprint Reading	1	0	3	2
*	ARC 4300	Architectural Mechanical Equipment	2	0	3	3
*	ARC 4337	Site Planning	1	0	6	3
*	ARC 4338	Mechanical/Electrical Drawing	1	0	6	3
*	ARC 4339	Structural Drawing	1	0	6	3
*	ARC 4340	Project Studio	1	0	6	3
	CIV 3306	Construction Materials and Methods	2	0	3	3
*	CIV 3407	Introduction to Surveying	2	0	6	4
*	CIV 3414	Statistics	3	0	3	4
*	CIV 3415	Strength of Materials	3	0	3	4
*	CIV 4300	Codes and Contracts	2	0	3	3
*	CIV 4425	Structural Steel and Timber Design	3	0	3	4
	EDP 3310	Microcomputer Operations	2	2	0	3
*	MAT 3508	Engineering Technology Mathematics II	5	0	0	5
*	MAT 3509	Engineering Technology Mathematics III	5	0	0	5
*	PHY 1405	Physics II – Elastic and Thermal Properties of Matter	3	2	0	4
*	PHY 1406	Physics III – Electricity and Magnetism	3	2	0	4
	TECHNICAL ELECTIVES		11	0	0	11
	# Related Elective		3	0	0	3
						93
General Education Core Courses:						
*	ENG 1504	English Composition I	5	0	0	5
*	ENG 3405	Technical English II	4	0	0	4
	SPH 1300	Oral Communications	3	0	0	3
*	MAT 3507	Engineering Technology Mathematics I	5	0	0	5
*	PHY 1404	Physics I - Basic Mechanics	3	2	0	4
	Humanities Elective: Choose any course listed under General Education Goal V.		3	0	0	3
	International Awareness Elective: ARC 3320 Introduction to Architecture		3	0	0	3
	Self and Society Elective: Choose any course listed under General Education Goal VII.		3	0	0	3
						30
Total Credit Hours						123
Technical Electives:						
*	ARC 3217	Architectural Computer Drafting - (Autoshade)	1	0	3	2
*	ARC 3319	Advanced AutoCAD System	1	0	6	3
*	ARC 3324	Architectural Computer Drafting - Microstation Basic (Intergraph)	1	0	6	3
*	ARC 3325	CAD - Microstation Advanced (Intergraph)	1	0	6	3
*	ARC 3326	Residential Design	1	0	6	3
*	ARC 4202	Specifications Development	1	0	3	2
	ARC 4214	Residential Building Code	2	0	0	2
	ARC 4310	Energy Efficiency and Passive Solar Home Design	3	0	0	3
*	ARC 4303	Introduction to ADA	3	0	0	3
*	ARC 4345	Architectural Presentation Drawing	1	0	6	3
# RELATED ELECTIVES to be selected from any of the following courses:						
*	CIV 4305	Construction Estimates	2	3	0	3
*	CIV 4426	Reinforced Concrete and Masonry Design	3	3	0	4
*	ARC 4284	Co-Op Experience I	0	0	20	2

* Prerequisite or corequisite is required; check course description for details.

Automotive Body Repair (V001)

Official Program Description registered with the NC Department of Community Colleges:

The Automotive Body Repair curriculum provides training in the use of the equipment and materials of the auto body mechanic trade. The student studies the construction of the automobile body and techniques of auto body repairing, rebuilding and refinishing.

Repairing, straightening, aligning, metal finishing and painting of automobile bodies and frames are typical jobs performed. Job titles include automobile body repairperson, automotive painter and frame and chassis repairperson. Persons completing this curriculum may find employment with franchised automobile dealers, independent garages, or may start their own business.

Diploma Awarded

A Diploma in Automotive Body Repair is awarded by the College upon completion of this program.

Note

Students must furnish required hand tools, textbooks, respirator, and protective clothing. A list of these items can be obtained from an instructor or the Program Director.

For More Information

The Automotive Body Repair program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6938, or the Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area.

First step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
	AUB 5201	Trim and Glass	1	3	2
	AUB 5202	Auto Renewal	1	3	2
*	AUB 5235	Special Finishes	1	3	2

AUB 5303	Estimating Auto Body Damage	2	2	3
* AUB 5344	Body Shop Applications I	0	9	3
* AUB 5345	Body Shop Applications II	0	9	3
* AUB 5346	Body Shop Applications III	0	9	3
* AUB 5401	Panel Replacement & Adjustments	2	6	4
* AUB 5402	Enamel Painting	2	6	4
AUB 5412	Frame and Unitized Body Alignment	2	6	4
AUB 5431	Paint Equipment & Preparation	2	6	4
AUB 5600	Metal Finishing with Plastic and Fiberglass Fillers	3	9	6
AUT 5212	Electrical Testing	1	3	2
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
AUT 5404	Auto Chassis and Suspension Systems	2	6	4
AUT 5454	Auto Heating and Air Conditioning	2	6	4
ENG 5500	Communications Skills	5	0	5
HSA 5200	Human Relations	2	0	2
MGT 3303	Small Business Management	3	0	3
WLD 5210	Basic Oxyacetylene Welding	1	3	2
WLD 5250	Basic Gas Metal Arc Welding	1	3	2
TECHNICAL ELECTIVE				3

Total Credit Hours 71

Technical Electives:

*AUB 5215	Auto Body Co-Op	0	20	2
AUB 5347	Body Shop Applications IV	0	9	3
AUT 5415	Electrical Systems I	2	6	4

* Prerequisite or corequisite is required; check course description for details.

Automotive Body Repair Certificates (V001-A, B, C)

Specialization Certificates

The certificates listed below can be earned in the Automotive Body Repair (V001) program.

For More Information

For more information, call the Program Director – (704)342-6938, or the Technical Careers Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area.

First step to Enroll

Call the Welcome Center – (704)342-6719.

Automotive Body Repair Certificate With a Specialization in Automotive Metal Finishing (V001-A)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
WLD 5250	Basic Gas Metal Arc Welding	1	3	2
WLD 5210	Basic Oxyacetylene Welding	1	3	2
* AUB 5344	Body Shop Applications I	0	9	3
* AUB 5345	Body Shop Applications II	0	9	3
AUB 5303	Estimating Auto Body Damage	2	2	3
AUB 5600	Metal Finishing with Plastic and Fiberglass Fillers	3	9	6
* AUB 5401	Panel Replacement and Adjustments	2	6	4
AUB 5201	Trim and Glass	1	3	2

Total Credit Hours 25

Auto Body Repair Certificate With a Specialization in Automotive Painting (V001-B)

* AUB 5344	Body Shop Applications I	0	9	3
* AUB 5345	Body Shop Applications II	0	9	3
* AUB 5402	Enamel Painting	2	6	4
AUB 5303	Estimating Auto Body Damage	2	2	3
AUB 5431	Paint Equipment and Preparation	2	6	4
* AUB 5235	Special Finishes	1	3	2

Total Credit Hours 19

Auto Body Repair Certificate With a Specialization in Automotive Body and Frame Alignment (V001-C)

AUT 5454	Auto Heating and Air Conditioning	2	6	4
WLD 5250	Basic Gas Metal Arc Welding	1	3	2
WLD 5210	Basic Oxyacetylene Welding	1	3	2
* AUB 5346	Body Shop Applications III	0	9	3
AUB 5303	Estimating Auto Body Damage	2	2	3
AUB 5412	Frame and Unitized Body Alignment	2	6	4
* AUB 5401	Panel Replacement and Adjustments	2	6	4
AUT 5404	Steering and Suspension Systems	2	6	4

Total Credit Hours 26

* Prerequisite or corequisite is required; check course description for details.

Automotive Mechanics (V003)

Official Program Description registered with the NC Department of Community Colleges:

The Automotive Mechanics curriculum provides a training program for developing the basic knowledge and skills needed to inspect, diagnose, repair and adjust automotive vehicles. Manual skills are developed in practical shop work and the technical understanding of the operating principles involved in the modern automobile are taught through class assignments, discussion and shop practices.

Automobile mechanics maintain and repair mechanical, electrical and body parts of passenger cars, trucks and buses. In some communities and rural areas, they also may service tractors or marine engines and other gasoline-powered equipment. Mechanics inspect and test to determine the causes of faulty operation. They repair or replace defective parts to restore the vehicle or machine to proper operating condition and use shop manuals and other technical publications as references for technical data. Persons completing this curriculum may find employment with franchised automobile dealers, independent garages, or may start their own business.

Diploma Awarded

A Diploma in Automotive Mechanics is awarded by the College upon completion of this program.

Note

Students must furnish required hand tools and protective clothing, as well as textbooks. A list of these items can be obtained from an instructor or a Program Counselor.

For More Information

The Automotive Mechanics program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6858, or the Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Counselors for this program can be reached by calling (704)342-6229 or 6059.

Admissions

• Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area.

First step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
* AUT 5307	Electrical, Fuel and A/C Systems Applications	1	6	3
* AUT 5308	Brakes, Steering and Suspension Systems Applications	1	6	3
AUT 5311	Brake Systems	2	3	3
AUT 5401	Internal Combustion Engines I	2	6	4
* AUT 5402	Internal Combustion Engines II	2	6	4
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
AUT 5404	Steering and Suspension Systems	2	6	4
AUT 5405	Basic Automotive Fuel Systems	2	6	4
AUT 5415	Electrical Systems I	2	6	4
* AUT 5416	Electrical Systems II	2	6	4
AUT 5425	Power Train Systems I	2	6	4
AUT 5426	Power Train Systems II	2	6	4
AUT 5427	Power Train Systems III	2	6	4
AUT 5454	Automotive Heating and Air Conditioning	2	6	4
ENG 5500	Communications Skills	5	0	5
HSA 5200	Human Relations	2	0	2
PHY 5304	Applied Physics I	2	2	3
PHY 5305	Applied Physics II	2	2	3
WLD5210	Basic Oxyacetylene Welding	1	3	2
TECHNICAL ELECTIVE				2
TOTAL CREDIT HOURS				70
Technical Electives:				
AUB 5201	Trim and Glass	1	3	2
* AUT 5205	Fundamentals of Computer Controlled Fuel Systems	2	0	2
* AUT 5295	Auto Mechanics Co-Op	0	20	2
DSL 5300	Diesel Fundamentals	2	3	3
DSL 5304	Hydraulics and Pneumatics	2	2	3

* Prerequisite or corequisite is required; check course description for details.

Prerequisite or corequisite may be waived by Program Director for those with appropriate training or experience.

Automotive Mechanics Certificate (V003–A)

Specialization Certificate

The certificate listed below can be earned in the Automotive Mechanics (V003) program.

For More Information

For more information, call the Program Director – (704)342-6858, or the Technical Careers Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

• Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area.

First Step to Enroll:

Call the Welcome Center – (704)342-6719.

Automotive Mechanics Certificate With a Specialization in Automotive Suspensions and Brakes (V003-A)

* AUT 5308	Brakes, Steering and Suspension Systems Applications	1	6	3
AUT 5311	Brake Systems	2	3	3
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
AUT 5404	Steering and Suspension Systems	2	6	4
PHY 5304	Applied Physics	2	2	3
Total Credit Hours				17

* Prerequisite or corequisite is required; check course description for details

Automotive Service Technician (T156)

Official Program Description registered with the NC Department of Community Colleges:

The Automotive Service Technician curriculum is comprised of cooperative education training and related instruction in the classroom. The related instruction is an organized and systematic form of instruction designed to provide the student with knowledge of theoretical, technical, and general academic subjects related to the trade of the automotive technician. The cooperative work phase of the program requires students to be employed full-time in supervised automotive mechanic positions to receive on-the-job experience. The cooperative phase of the program will be supervised and evaluated.

This program is designed to upgrade the technical and professional level of students desiring to become dealership technicians. This program includes classroom lecture and laboratory sessions on up-to-date specific manufacturer's vehicles, as well as paid work experience at an automotive dealership. The program requires study and work experience through nine calendar quarters. Students alternate quarters between CPCC and their assigned dealerships. Each specialized subject is covered within the classroom and laboratory at the College and is immediately followed by related work experience in the dealership.

Program Accreditation

The GM-ASEP, Toyota T-TEN, and CAST programs are Master Certified by the National Institute for Automotive Service Excellence (A.S.E.).

Note

Students must furnish required hand tools and protective clothing, as well as textbooks. A list of these items can be obtained from an instructor or a Program Counselor.

For More Information

The Automotive Service Technician program is in the Technical Careers Department. For more information, call the Program Coordinator listed below, or the Department Office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

This program is offered with three different sponsor groups. General Motors and GM dealers sponsor the Automotive Service Educational Program (ASEP). Toyota and Toyota dealers sponsor the Toyota Technical Education Network (T-TEN). Chrysler and Chrysler dealers sponsor the Chrysler Apprenticeship Program (CAP). Other dealers and independent repair shops sponsor the Cooperative Automotive Service Technician (CAST) program.

GM-ASEP Coordinator — 342-6023

Toyota T-TEN Coordinator — 342-5002

Chrysler CAP Coordinator — 342-6061
CAST Coordinator — 342-6858

Degree Awarded

The Associate in Applied Science Degree – Automotive Service Technician is awarded by the College upon completion of this program.

Admissions

- Students are admitted to each program once a year.
- Satisfactory scores on placement tests are required.
- Students must maintain an approved dealership sponsor.
- A high school diploma or equivalent is required.

First step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
First Quarter				
AUT 4415	Gasoline Combustion Engines I	2	4	4
AUT 4417	Automotive Fuel Delivery Systems	2	4	4
AUT 4407	Automotive Engine Electrical Systems I	2	4	4
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
AUT 4311	Automotive Brake Systems	2	2	3
PHY 5304	Applied Physics I	2	2	3
				22
Second Quarter				
* AUT 5321	Auto Dealer Co-Op I	0	30	3
				3
Third Quarter				
* AUT 4408	Gasoline Combustion Engines II	2	4	4
* AUT 4409	Automotive Engine Electrical Systems II	2	4	4
* AUT 4501	Automotive Electronics	4	2	5
AUT 4414	Automotive Climate Control Systems	2	4	4
* PHY 5305	Applied Physics II	2	2	3
EDP 3310	Microcomputer Operations	2	2	3
				23
Fourth Quarter				
* AUT 5322	Auto Dealer Co-Op II	0	30	3
				3
Fifth Quarter				
AUT 4411	Auto Manual Power Train Systems	2	4	4
AUT 4412	Automotive Suspension and Steering Systems	2	4	4
* AUT 4506	Computer Controlled Fuel Systems	4	2	5
* AUT 4300	Automotive Emission Systems	2	2	3
* ENG 1504	English Composition I	5	0	5
				21
Sixth Quarter				
* AUT 5323	Auto Dealer Co-Op III	0	30	3
				3
Seventh Quarter				
AUT 4413	Automotive Automatic Transmissions	2	4	4
* AUT 4402	Auto Instrumentation and Chassis Electrical Systems	3	2	4
WLD 5250	Basic Gas-Metal Arc Welding	1	3	2
WLD 5210	Basic Oxyacetylene Welding	1	3	2
* ENG 3405	Technical English II+	4	0	4
SPH 2310	Intercultural Communications	3	0	3
	Self and Society Elective: Choose any course from General Education Goal VII.	3	0	3
				22
Eighth Quarter				
* AUT 5324	Auto Dealer Co-Op IV	0	30	3
				3
Ninth Quarter				
* AUT 4416	Automotive Automatic Transaxles	2	4	4
DSL 5300	Diesel Fundamentals	2	3	3
* MAT 3325	General College Mathematics+	3	0	3
SCI 3300	Principles of Science	3	0	3
SPH 1300	Oral Communications	3	0	3
				16

Total Credit Hours 116

+ MAT 1504, 1505, or 1514 should be taken in lieu of MAT 3325, and ENG 1505 in lieu of ENG 3405 for students who may later transfer.

* Prerequisite or corequisite is required; check course description for details.

Automotive Technology (T176)

Official Program Description registered with the NC Department of Community Colleges:

Automotive Technology is designed to meet the needs for preparing highly trained technicians to service and repair automobiles and light trucks equipped with highly technical electrical, electronics, and emission control systems. Emphasis is placed on the operation and servicing of the power train components, electrical systems, fuel systems, chassis and suspension and emission controls of gasoline and diesel engine vehicles. Upon completion of this curriculum, the person should have the theoretical knowledge and background to understand the systems of the newer model automobiles and should be prepared to work as a technician servicing automobiles and light duty trucks.

Degree Awarded

The Associate in Applied Science Degree – Automotive Technology is awarded by the College upon completion of this program.

Program Accreditation

This program is Master Certified by the National Institute for Automotive Service Excellence (A.S.E.).

Note

Students must furnish required hand tools and protective clothing, as well as textbooks. A list of these items can be obtained from an instructor or a Program Counselor.

For More Information

The Automotive Technology program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6858, or the Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- A High School Diploma or equivalent is required.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
* AUT 4300	Automotive Emission Systems	2	2	3

AUT 4308	Manual and Automatic Power Trains Applications	1	6	3
* AUT 4402	Auto Instrumentation and Chassis Electrical Systems	3	2	4
* AUT 4501	Automotive Electronics	4	2	5
* AUT 4506	Computer Controlled Fuel Systems	4	2	5
* AUT 5205	Fundamentals of Computer Controlled Fuel Systems	2	0	2
AUT 5307	Electrical, Fuel, and A/C Systems Applications	1	6	3
* AUT 5308	Brakes, Steering, and Suspension Systems Applications	1	6	3
AUT 5311	Brakes Systems	2	3	3
AUT 5401	**Internal Combustion Engines I**	**2**	**6**	**4**
* AUT 5402	Internal Combustion Engines II	2	6	4
AUT 5403	**Basic Calculations for Auto and Diesel Technicians**	**4**	**0**	**4**
AUT 5404	Steering and Suspension Systems	2	6	4
AUT 5405	**Basic Automotive Fuel Systems**	**2**	**6**	**4**
AUT 5415	**Electrical Systems I**	**2**	**6**	**4**
* AUT 5416	Electrical Systems II	2	6	4
AUT 5425	Power Train Systems I	2	6	4
AUT 5426	Power Train Systems II	2	6	4
* AUT 5427	Power Train Systems III	2	6	4
AUT 5454	Automotive Heating and Air Conditioning	2	6	4
DSL 5300	Diesel Fundamentals	2	3	3
DSL 5304	Hydraulic and Pneumatics	2	2	3
PHY 5304	**Applied Physics I**	**2**	**2**	**3**
PHY 5305	Applied Physics II	2	2	3
WLD 5210	Basic Oxyacetylene Welding	1	3	2
TECHNICAL ELECTIVE				2
				91

General Education Core Requirements:

* ENG 1504	English Composition I	5	0	5
* ENG 3405	Technical English II+	4	0	4
SPH 1300	Oral Communications	3	0	3
* MAT 3325	General College Mathematics+	3	0	3
SCI 3300	Principles of Science	3	0	3
EDP 3310	Microcomputer Operations	2	2	3
SPH 2310	Intercultural Communications	3	0	3
Self and Society Elective: Choose any course from General Education Goal VII.		3	0	3
				27

Total Credit Hours 118

Technical Electives:

AUB 5201	Trim and Glass	1	3	2
* AUT 5295	Auto Mechanics Co-Op	0	20	2

* Prerequisite or corequisite required; check course description. Prerequisite or corequisite may be waived by Program Director for those with appropriate training or experience.

\+ MAT 1504, 1505, or 1514 should be taken in lieu of MAT 3325, and ENG 1505 in lieu of ENG 3405 for students who may later transfer.

Automotive Technology Certificates (T176–A, B, C)

Specialization Certificates

The certificates listed below can be earned in the Automotive Technology (T176) program.

For More Information

For more information, call the Program Director – (704)342-6858, or the Technical Careers Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- A High School Diploma or equivalent is required.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Automotive Technology Certificate With a Specialization in Automotive Driveability/Tune-up (T176-A)				
AUT 4300	Automotive Emission Systems	2	2	3
AUT 4501	Automotive Electronics	4	2	5
AUT 4506	Computer Controlled Fuel Systems	4	2	5
AUT 5205	Fundamentals of Computer Controlled Fuel Systems	2	0	2
AUT 5307	Electrical, Fuel and A/C Systems Applications	1	6	3
AUT 5415	Electrical Systems I	2	6	4
AUT 5403	Basic Calculations for Auto and Diesel Tech.	4	0	4
AUT 5405	Basic Automotive Fuel Systems	2	6	4
AUT 5416	Electrical Systems II	2	6	4
AUT 5454	Automotive Heating & A/C	2	6	4

Total Credit Hours 38

Automotive Technology Certificate With a Specialization on Automotive Electrical Systems (T176-B)				
AUT 4402	Auto Instrumentation and Chassis Electrical. Systems.	3	2	4
AUT 4501	Automotive Electronics	4	2	5
AUT 5307	Electrical, Fuel, and A/C Systems Applications	1	6	3
AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
AUT 5415	Electrical Systems I	2	6	4
AUT 5416	Electrical Systems II	2	6	4
AUT 5454	Automotive Heating & A/C	2	6	4

Total Credit Hours 28

Automotive Technology Certificate With a Specialization on Automotive Transmissions (T176-C)				
AUT 4308	Manual and Automatic Powertrains Applications	1	6	3
AUT 5425	Power Train Systems I	2	6	4
AUT 5426	Power Train Systems II	2	6	4
AUT 5427	Power Train Systems III	2	6	4
DSL 5304	Hydraulics and Pneumatics	2	3	3

Total Credit Hours 18

Banking and Finance (T112)

Official Program Description registered with the NC Department of Community Colleges:

The purposes of the Banking and Finance curriculum are to prepare the individual to enter the banking and finance industries, to provide an educational program for the banking employees wanting to receive the American Institute of Banking certificate, and to provide an educational program to upgrade or retrain individuals presently employed in the banking and finance industry.

These purposes will be fulfilled through study in areas such as banking and finance principles, theories and practices

lending and collections procedures, financial analysis,marketing, and public relations.

This curriculum will provide the opportunity for an individual to enter a variety of banking or finance jobs in retail banks, commercial banks, government lending agencies, mortgage banks, and credit companies.

Degree and Certificate Awarded

An Associate in Applied Science Degree – Banking and Finance is awarded by the College upon completion of this program.

A Certificate in Banking and Finance may also be earned.

For More Information

The Banking and Finance program is in the Accounting and Public Safety Department. For more information, call the Program Director – (704)342-6585 weekdays, 8 a.m.-4:30 p.m. Program Counselors can be reached by calling (704)342-6426 or 6550.

Admissions

- A High School Diploma or equivalent is required.
- CPCC placement tests in English, mathematics, and reading are required.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Major and Related Course Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
	ACC 1604	Principles of Accounting I or			
	ACC 5404	Accounting Practices I -AIB	4	0	4
*	ACC 1605	Principles of Accounting II or			
*	ACC 5405	Accounting Practices II -AIB	4	0	4
	BAF 3300	Commercial Lending	3	0	3
	BAF 3301	**Principles of Banking**	**3**	**0**	**3**
	BAF 3302	Law and Banking: Principles	3	0	3
	BAF 3303	Money and Banking	3	0	3
	BAF 4303	International Banking	3	0	3
	BAF 4309	Consumer Lending	3	0	3
	BAF 4312	Marketing for Bankers	3	0	3
	BAF 4313	Law and Banking: Application	3	0	3
	BAF 4320	Deposit Operations	3	0	3
	BUS 1500	**Introduction to Business**	**5**	**0**	**5**
	BUS 2304	Business Law I	3	0	3
*	BUS 2305	Business Law II	3	0	3
	BUS 3300	Human Relations	3	0	3
*	ECO 2305	Economics II	3	0	3
*	EDP 3324	Advanced Microcomputer Operations	1	4	3
*	FIN 3315	Business Mathematics II +	3	0	3
	FIN 4350	Personal Financial Management	3	0	3
	MGT 2314	Principles of Management	3	0	3
	MGT 4330	Supervision	3	0	3
	SEC 3104	Electronic Calculators	0	2	1
	TECHNICAL ELECTIVES		16	0	16
					84

General Education Core Requirements:

*	**ENG 1504**	**English Composition I**	**5**	**0**	**5**
*	ENG 1505	English Composition II + or			
*	ENG 3405	Technical English II +	4	0	4
	SPH 1300	Oral Communications	3	0	3
	FIN 3314	**Business Mathematics I +**	**3**	**0**	**3**
		Science Elective: Choose any laboratory science course to satisfy General Education Goal III Area I (except SCI 3300).	3	4	5
	EDP 3310	Microcomputer Operations	2	2	3
		Humanities Elective: Choose any course listed under General Education Goal V.	3	0	3
		International Awareness Elective: Choose any course listed under General Education Goal VI.	3	0	3
	ECO 2304	Economics I	3	0	3
					32

Total Credit Hours 116

Technical Electives:

With the approval of an advisor, students may choose 16 hours from the following: (SEC 5200 is required if the student has not completed a typing course.)

*	BAF 4284	Cooperative Work Experience I	0	20	2
	BAF 4310	Bank Investments and Funds Management	3	0	3
	BAF 4314	Real Estate Finance	3	0	3
	BAF 4316	The Trust Business	3	0	3
	BAF 4322	Trust Operations	3	0	3
	BAF 4324	Securities Processing	3	0	3
*	BUS 2306	Business Law III	3	0	3
	BUS 4340	Consumer Credit	3	0	3
	BUS 4341	Commercial Credit	3	0	3
*	ECO 2306	Economics III	3	0	3
*	EDP 4314	Systems and Procedures	3	0	3
*	FIN 4300	Analyzing Financial Statements - AIB	3	0	3
*	FIN 4334	Business Finance I	3	0	3
*	FIN 4335	Business Finance II	3	0	3
	INT 3300	Introduction to International Business	3	0	3
*	INT 3307	Economics of International Trade	3	0	3
	RES 3601	Fundamentals of Real Estate	6	0	6
	SEC 5200	Computer Keyboarding	1	2	2

+ MAT 1504 and 1505 should be taken in place of FIN 3314 and 3315, and ENG 1505 in place of ENG 3405 for students who may later transfer.

* Prerequisite or corequisite is required; check course description for details.

Note: Courses with a "BAF" prefix are offered primarily in the evenings and during fall and spring quarters.

Banking and Finance Certificate (T112-A)

The certificate listed below can be earned in the Banking and Finance program. The certificate is awarded by the college upon the completion of this program.

For More Information

The Banking and Finance program is in the Accounting and Public Safety Department. For more information, call the Program Director – (704)342-6585 weekdays, 8 a.m.-4:30 p.m. Program Counselors can be reached by calling (704)342-6426 or 6550.

Admissions

- High School diploma or equivalent is required.
- CPCC placement tests are required in English, mathematics and reading.
- A counseling/orientation appointment follows placement testing.

First step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Banking and Finance Certificate with a Specialization in Banking Operations (T112-A)					
ACC	1604	Principles of Accounting I or			
ACC	5404	Accounting Practices I-AIB	4	0	4
BAF	3301	Principles of Banking	3	0	3
BAF	3303	Money and Banking	3	0	3
BUS	1500	Introduction to Business	5	0	5
ECO	2304	Economics I	3	0	3
EDP	3310	Microcomputer Operations	2	2	3
* ENG	1504	English Composition I	5	0	5
FIN	3314	Business Mathematics I	3	0	3
SEC	3104	Electronic Calculators	0	2	1
SEC	3303	Keyboarding	1	4	3
SPH	1300	Oral Communications	3	0	3
**		Technical Electives	6	0	6
Total Credit Hours.					42

** Technical Electives are to be BAF-prefix courses.

Basic Law Enforcement Training (T189)

Official Program Description registered with the NC Department of Community Colleges:

The Basic Law Enforcement Training curriculum certificate program prepares individuals to take the Basic Training Law Enforcement Officers certification examination mandated by the North Carolina Criminal Justice Education and Training Standards Commission and/or it prepares individuals to take the Justice Officers Basic Training certification examinations mandated by the North Carolina Sheriff's Education and Training Standards Commission. Successful completion of this curriculum certificate program requires that the student satisfy the minimum requirements for certification by the Criminal Justice Commission and/or the Sheriff's Commission. The student satisfactorily completing this program should possess at least the minimum degree of general attributes, knowledge and skills to function as an inexperienced law enforcement officer.

Job opportunities are available with state, county, and municipal governments in North Carolinas. In addition, knowledge, skills, and abilities acquired in this course of study qualify one for job opportunities with private enterprise in such areas as industrial, retail, and private security.

Note

A $250 supplies fee will be charged for PSC 5501 - Basic Law Enforcement Training (BLET).

For More Information

This program is in the Accounting and Public Safety Department. For more information, call the Program Director – (704)342-6026, weekdays, 8 a.m.-4:30 p.m.

Admission

- Admission to this program requires sponsorship of a law enforcement agency.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Bookkeeping/Clerical (T150)

Official Program Description registered with the NC Department of Community Colleges:

The purposes of the Bookkeeping/Clerical curriculum are to prepare the individual to enter occupations which require training in both bookkeeping and clerical skills, to provide an educational program for individuals wanting training to work in small businesses and other areas where a diversification of skills is needed, and to provide opportunities for individuals wanting to fulfill professional or general interests and for those individuals interested in upgrading or retraining.

These purposes will be fulfilled through study in areas such as maintaining journals and ledgers, preparing financial statements, submitting tax forms, preparing cost data, typing, managing records, operating business machines and other basic office skills.

Through knowledge and skills, the individual will be able to perform bookkeeping and clerical activities, and through the development of personal competencies and qualities will be able to enter business and industry as a bookkeeper or clerk in a variety of areas.

Degree Awarded

The Associate in Applied Science Degree – Bookkeeping/Clerical is awarded by the College upon completion of this program.

For More Information

The Bookkeeping/Clerical program is in the Accounting and Public Safety Department. For more information, call the Program Director – (704)342-6545, weekdays, 7:30 a.m.-4:30 p.m. Program Counselors can be reached by calling (704)342-6426 or 6550.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests will determine admission to certain courses.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
ACC	**1604**	**Principles of Accounting I**	**5**	**2**	**6**
* ACC	1605	Principles of Accounting II	5	2	6
* ACC	2626	Intermediate Accounting I	5	2	6
* ACC	2627	Intermediate Accounting II	5	2	6
ACC	3500	Small Business Accounting	5	0	5
* ACC	4414	Microcomputer Accounting - General Ledger	2	4	4
* ACC	1415	Microcomputer Accounting - Spreadsheets	2	4	4
* ACC	4425	Taxes – Business and Fiduciary	3	2	4
* EDP	3215	Microcomputer Software – LOTUS 1-2-3	1	2	2
* ECO	2305	Economics II	3	0	3
* EDP	3324	Advanced Microcomputer Operations	1	4	3
* FIN	3315	Business Mathematics II	3	0	3
* FIN	4334	Business Finance I	3	0	3
SEC	**3303**	**Keyboarding**	**1**	**4**	**3**
* SEC	3405	Document Formatting I	3	2	4
* SEC	3406	Document Formatting II	3	2	4

SEC 3104	Electronic Calculators	0	2	1
SEC 4370	Records Management	3	0	3
SEC 4429	Word Processing I	3	2	4
	TECHNICAL ELECTIVE	3	0	3
				77

General Education Core Requirements:

*ENG 1504	English Composition I	5	0	5
*ENG 1505	English Composition II[+] or			
*ENG 3405	Technical English II	4	0	4
SPH 1300	Oral Communications	3	0	3
FIN 3314	**Business Mathematics I[+]**	**3**	**0**	**3**
	Science and Technology Elective: Choose any laboratory science course listed under General Education Goal III Area I (except SCI 3300).	3	0	3
EDP 3310	**Microcomputer Operations**	**2**	**2**	**3**
	Humanities Elective: Choose any course listed under General Education Goal V.	3	0	3
	International Awareness Elective: Choose any course listed under General Education Goal VI.	3	0	3
ECO 2304	Economics I	3	0	3
				30

Total Credit Hours 107

Technical Electives: With the approval of an advisor, students may select three hours from the following courses:

*ACC 4284	Cooperative Work Experience I	0	0	2
*ACC 4285	Cooperative Work Experience II	0	0	2
ACC 4308	International Accounting	3	0	3
ACC 4434	Taxes - Individual	3	2	4
BUS 1500	Introduction to Business	5	0	5
BUS 2304	Business Law I	3	0	3
BUS 2305	Business Law II	3	0	3
BUS 3300	Human Relations	3	0	3
BUS 3304	Business Statistics	3	0	3
*EDP 3217	Microcomputer Software - Data Base	1	2	2
*EDP 3335	Microcomputer Programming - MS/DOS	2	2	3
FIN 3303	Personal Investing	3	0	3
*FIN 4317	Financial Statement Analysis	3	0	3
*FIN 4335	Business Finance II	3	0	3
FIN 4350	Personal Financial Management	3	0	3
*MAT 3325	General College Mathematics	3	0	3
SEC 4407	Document Production	3	2	4

[+] MAT 1504 and 1505 should be taken in place of FIN 3314 and 3315, and ENG 1505 in place of ENG 3405 for students who may later transfer.

* Prerequisite or corequisite is required; check course description for details.

Business Administration (T018)

Official Program Description registered with the NC Department of Community Colleges:

The Business Administration curriculum is designed to prepare individuals for entry into middle-management positions. The curriculum develops competencies in the application of management principles. Emphasis is placed on skill development in the areas of management functions, computer applications and analysis, critical thinking and decision-making techniques, marketing, finance, legal aspects of business, oral and written communications, and the utilization of human resources. Through the development of management competencies, the graduate will be able to function as a contributing member of a management team.

Degree Awarded

The Associate in Applied Science – Business Administration is awarded by the College upon completion of this program.

For More Information

The Business Administration program is in the Business Administration Department. Call (704)342-6238 to talk to the Program Director or (704)342-6646 to reach the departmental office.

Admissions

- A High School Diploma or equivalent is required.
- In order to be placed in English (ENG) and mathematics (MAT) courses, students must take computerized placement tests in reading, English and math.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

First step to Enroll

Call the Welcome Center – (704)342-6719.

Major and Related Course Requirements:

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BUS 1500	**Introduction to Business**	**5**	**0**	**5**
MKT 1304	**Marketing I**	**3**	**0**	**3**
BUS 2304	Business Law I	3	0	3
*BUS 2305	Business Law II	3	0	3
*BUS 2306	Business Law III	3	0	3
BUS 3300	Human Relations I	3	0	3
*BUS 3304	Business Statistics I	3	0	3
MGT 2314	**Principles of Management**	**3**	**0**	**3**
MGT 3303	Small Business Management	3	0	3
MGT 4330	Supervision	3	0	3
MGT 4331	Administrative Office Management	3	0	3
MGT 4332	Human Resources Management I	3	0	3
*MGT 4333	Introduction to Industrial Management	3	0	3
*MGT 4337	Human Resources Management II	3	0	3
FIN 3314	**Business Mathematics I[+]**	**3**	**0**	**3**
ACC 1604	Principles of Accounting I	5	2	6
*ACC 1605	Principles of Accounting II	5	2	6
*ECO 2305	Economics II	3	0	3
*ECO 2306	Economics III	3	0	3
	TECHNICAL ELECTIVES	12	0	12
				77

General Core Education Requirements:

*ENG 1504	English Composition I	5	0	5
*ENG 3405	Technical English II or			
*ENG 1505	English Composition II[+]	4	0	4
SPH 1300	**Oral Communications**	**3**	**0**	**3**
***MAT 3325**	**General College Mathematics[+]**	**3**	**0**	**3**
SCI 3300	Principles of Science	3	0	3
EDP 3310	**Microcomputer Operations**	**2**	**2**	**3**
*EDP 3324	Advanced Microcomputer Operations	1	4	3
	Humanities Elective: Choose any course listed under General Education Goal V.	3	0	3
INT 3300	Introduction to International Business	3	0	3
ECO 2304	Economics I	3	0	3
				33

Electives

*BUS 4201	Business Administration Cooperative Education I or Elective	0	20	2

*BUS	4202	Business Administration Cooperative Education II or Elective	0	20	2
					4

Total Credit Hours 114

Technical Electives:

Students wishing to concentrate in **General Management** must take the following courses:

BUS	4322	Purchasing	3	0	3
MGT	4336	Essentials of Total Quality Management	3	0	3
MGT	4338	Labor Management Relations	3	0	3
*FIN	4334	Business Finance I	3	0	3

Students wishing to concentrate in **International Business Management** must take the following courses:

INT	3305	International Marketing	3	0	3
INT	3306	International Business Practice	3	0	3
INT	3307	International Economics & Trade	3	0	3
INT	4307	International Business Law	3	0	3

Students wishing to concentrate in **Administrative Office Management** must take the following courses:

MGT	4338	Labor Management Relations	3	0	3
*FIN	3315	Business Mathematics II	3	0	3
SEC	3312	Word Processing	3	0	3
SEC	4370	Records Management	2	2	3

Students wishing to concentrate in **Human Resources Management** must take the following courses:

HSE	3301	Safety Engineering	3	0	3
MGT	4336	Essentials of Total Quality Management	3	0	3
MGT	4338	Labor Management Relations	3	0	3
*BUS	3305	Human Relations II	3	0	3

* Prerequisite or corequisite is required; check course description for details

+ MAT 1504, MAT 1505, ENG 1505 are recommended for students planning to transfer to senior institutions.

Civil Engineering Technology (T038)

Official Program Description registered with the NC Department of Community Colleges:

The Civil Engineering Technology curriculum provides the specialized background and related theory for technicians who work primarily with architects and engineers in the field of construction. The Civil Engineering Technician carries out many of the planning and supervising tasks necessary in the construction of transportation systems such as highways, pipelines, railroads, airfields, and transmission lines; structures for residential and commercial buildings, bridges, dams, power plants; and water and waste treatment systems. The graduate may perform job tasks in planning, drafting, estimating, supervising, inspecting, or managing construction projects. Other duties might include ordering materials, interpreting plans and specifications, structural detailing and drafting work, making engineering computation of earthwork, storm drainage and property surveys.

Upon graduation from this program, the Civil Engineering Technician may quality for various jobs such as surveying instrumentation and/or party chief, field or laboratory materials tester, construction foreman, field engineering technician or superintendent, expeditor, manager, estimator, construction materials or equipment salesperson, inspector, drafter, or structural detailer.

Graduates of this program may receive credit toward qualifying to be a land surveyor. They may also continue their education toward a bachelor's degree in engineering technology.

Degree Awarded

The Associate in Applied Science Degree – Civil Engineering Technology - will be awarded by the College upon completion of this program.

The Civil Engineering Technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

For More Information

Civil Engineering Technology is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – (704)342-6881 or the Program Director – (704)342-6578, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required.
- CPCC placement tests are required in English and mathematics. Advancement studies (9000-series) mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

Note

Students who do not take program-related courses for four consecutive quarters must reenter the program under the Catalog in effect at the time of reentry.

First step to Enroll

Call the Welcome Center – (704)342-6719.

Major and Related Course Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*ARC	3314	Architectural Computer Drafting I	1	0	6	3
ARC	**3334**	**Basic Architectural Drawing**	**1**	**0**	**6**	**3**
ARC	4200	Architectural Blueprint Reading	1	0	3	2
CIV	**3101**	**Introduction to Civil Engineering/Surveying Technology**	**1**	**0**	**0**	**1**
CIV	**3306**	**Construction. Materials and Methods**	**2**	**0**	**3**	**3**
*CIV	3314	Structural Drafting (CAD)	1	0	6	3
*CIV	3317	Civil Drafting (CAD)	1	0	6	3
*CIV	3407	Introduction to Surveying	2	0	6	4
*CIV	3414	Statics	3	0	3	4
*CIV	3415	Strength of Materials	3	0	3	4
*CIV	4300	Codes and Contracts	2	0	3	3
*CIV	4302	Plain Concrete and Asphalt	1	0	6	3
*CIV	4305	Construction Estimates	2	0	3	3
*CIV	4307	Construction Project Management	2	0	3	3
*CIV	4319	Soils Technology	2	0	3	3
*CIV	4320	Principles of Hydraulics	2	0	3	3
*CIV	4407	Route Surveying	2	0	6	4
*CIV	4408	Boundary Surveying	2	0	6	4
*CIV	4425	Structural Steel and Timber Design	3	0	3	4
*CIV	4426	Reinforced Concrete and Masonry Design	3	0	3	4
EDP	1407	Microcomputer Concepts and PASCAL Programming+	3	2	0	4
*MAT	3508	Engineering Technology				

	Math II	5	0	0	5
*MAT 3509	Engineering Technology Math III	5	0	0	5
*PHY 1405	Physics II – Elastic and Thermal Properties of Matter	3	2	0	4
*PHY 1406	Physics III – Electricity and Magnetism	3	2	0	4
TECHNICAL ELECTIVES		6	0	0	6
					92

General Education Core Requirements:

***ENG 1504**	**English Composition I**	**5**	**0**	**0**	**5**
*ENG 3405	Technical English II	4	0	0	4
SPH 1300	Oral Communications	3	0	0	3
***MAT 3507**	**Engineering Technology Math I**	**5**	**0**	**0**	**5**
*PHY 1404	Physics I - Basic Mechanics	3	2	0	4
EDP 3310	Microcomputer Operations+	4	0	0	3
Humanities Elective: Choose any course listed under General Education Goal V.		3	0	0	3
International Awareness Elective: Choose any course listed under General Education Goal VI		3	0	0	3
Self and Society Elective: .Choose any course listed under General Education Goal VII		3	0	0	3
					33

Total Credit Hours 125

Technical Electives:

With the approval of an advisor, students may select six hours from the following:

*CIV 3315	Structural Detailing (CAD)	1	0	6	3
*CIV 4227	Microcomputer Applications	1	0	3	2
*CIV 4284	Cooperative Work Experience I	0	0	20	2
*CIV 4314	Construction Surveying	2	0	3	3
*CIV 4315	Subdivision Planning and Design	2	0	3	3

* Prerequisite or corequisite is required; check course description for details.

+ EDP 3335 may be substituted for EDP 3310.

+ EDP 3405 may be substituted for EDP 1407.

Commercial Art and Advertising Design (T070)

Official Program Description registered with the NC Department of Community Colleges:

Students in the Commercial Art and Advertising Design curriculum study advertising, illustration, layout, typography, design, photography, graphic communications and production.

Commercial artists and advertising designers create and design layouts and art work for print and audiovisual media. They may design and prepare letterheads, brochures, illustrations and art for publication; produce package design; and prepare lettering, type and art for print and audiovisual media.

Job opportunities for graduates of this program may be in art and design studios, advertising agencies, department stores, industrial advertising departments, government agencies, television and film studios, and the printing and publishing industry.

Degree Awarded

The Associate in Applied Science Degree – Commercial Art and Advertising Design is awarded by the College upon completion of this program.

For More Information

The Commercial Art and Advertising Design program is in the Visual and Performing Arts Department. For more information, call a Program Counselor – (704)342-6862, 6443, or 5922, weekdays, 8 a.m.-5 p.m.

Admissions

- High School Diploma or equivalent is required.
- Placement tests determine enrollment in English (ENG) and mathematics (MAT) courses.
- **Students entering this course should take the courses in bold print first if at all possible.**

First step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ART 1404	**General Drawing I**	**2**	**4**	**4**
*ART 1405	General Drawing II	2	4	4
*ART 1406	General Drawing III	2	4	4
ART 1424	**Design I**	**2**	**4**	**4**
*ART 1425	Design II	2	4	4
*ART 1426	Design III	2	4	4
ART 1384	Basic Camera Techniques	3	0	3
*ART 1385	Photo Lab Processes I	1	4	3
*ADV 1300	Photography for Advertising	1	4	3
*ADV 3401	Illustration I	2	4	4
*ADV 4454	Typography and Lettering I	2	4	4
*ADV 4455	Typography and Lettering II	2	4	4
*ADV 4414	Advertising Production I	2	4	4
*ADV 4415	Advertising Production II	2	4	4
*ADV 4416	Advertising Production III	2	4	4
*ADV 4424	Advertising Studio I	2	4	4
*ADV 4425	Advertising Studio II	2	4	4
*ADV 4426	Advertising Studio III	2	4	4
*ADV 4427	Advertising Studio IV	2	4	4
*ADV 4436	Advertising Thesis	2	4	4
*ENG 4324	Copywriting I	3	0	3
*PRN 5364	Fundamentals of Printing	2	2	3
				83

General Education Core Requirements:

MAT 1504	College Algebra I	5	0	5
***ENG 1504**	**English Composition I**	**5**	**0**	**5**
*ENG 1505	English Composition II	5	0	5
SPH 1300	Oral Communications	3	0	3
*ADV 3414	Computer Assisted Design	2	4	4
ART 1300	**Introduction to Art I**	**3**	**0**	**3**
*ART 1301	Introduction to Art II	3	0	3
PSY 2504	General Psychology	5	0	5
SCI 3300	Principles of Science or any Laboratory Science	3	0	3
International Awareness Elective; Choose any course from General Education Goal VI.		3	0	3
				39

Work Experience

*ADV 4284	Cooperative Work Experience	0	20	2

Total Credit Hours 124

* Prerequisite or corequisite is required; check course description for details.

Computer Engineering Technology (T040)

Official Program Description registered with the NC Department of Community Colleges:

This program is intended to provide the skills required to install, service and maintain computers, microprocessor- and computer-controlled equipment, and computer peripheral devices. The curriculum provides training in both the hardware and software areas of the computer field.

A sequence of introductory hardware courses provides the student with a strong background in physics, technical mathematics, electricity, electronics, and digital logic circuits and concepts. Advanced course work provides a detailed study of the logic of the central processing unit, the operation of integrated circuits in the central processing unit, the operation and use of integrated circuit memory devices and the interfacing of the central processing unit to memory devices. Additional studies cover interfacing the central processing unit to external devices using both serial and parallel data transfer, the operation of large scale integration programmable interface units and their interfacing with the central processing unit, and the operation of computer peripheral devices such as video displays, printers, floppy disk storage systems, magnetic tape units, keyboards and the techniques of converting signal between the analog and digital forms.

The programming course work provides a sequence of study stressing good program design techniques, structured programming and program documentation. Rather than being familiar with a large number of programming languages, the student is expected to learn well a highly structured language, such as PASCAL, and an assembly language. The importance of assembly language to the understanding of the operation of the central processing unit and the related computer units is stressed. Computer operating system concepts are discussed to provide a unified view of the hardware and software aspects of the computer system.

Degree Awarded

The Associate in Applied Science Degree – Computer Engineering Technology is awarded by the College upon completion of this program.

Program Accreditation

The Computer Engineering Technology program at Central Piedmont Community College is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

The Computer Engineering Technology program prepares students with skills and knowledge in both hardware and software aspects of computers and related systems. It provides a comprehensive background in the practical application of both computer and electronic circuits from the component to the system level. Courses are designed to present technical content in an order that provides students with progressive levels of job-related skills and knowledge. From fundamental programming and electrical circuits, students advance to specialized courses in computer circuits, microprocessors, microcomputer system design, software development, computer maintenance, and installation and technical support of local area networks.

The Computer/Electrical/Electronics Engineering Technology laboratories are staffed during day and evening hours so that students may devote as much time as possible to laboratory assignments. These modern facilities include adequate equipment to support practical laboratory activity in all courses.

Completion of the program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technological problems.

Students who do not take program-related courses for four consecutive quarters must re-enter the program under the Catalog in effect at the time of re-entry.

For More Information

The Computer Engineering Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Director – (704)342-6479, weekdays, 9 a.m.-5 p.m. The Program Counselor can be reached at (704)342-6881.

Admissions

- A High School Diploma or equivalent is required. High school students preparing for an Engineering Technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.
- CPCC placement tests are required in English and mathematics. Advancement studies (9000-series) mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.

First step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
*EDP	3335	Microcomputer Programming – MS/DOS	2	2	3
EDP	3410	C Language	3	2	4
ELN	3100	Computer/Electrical/Electronics Orientation	1	0	1
*ELN	3404	Electronics I	3	3	4
*ELN	3405	Electronics II	3	3	4
*ELN	3414	Industrial Instrumentation	3	3	4
*ELN	3514	Basic Electricity (DC)	3	6	5
*ELN	3515	Basic Electricity (AC)	3	6	5
*ELN	4100	Technical Career Planning	1	0	1
ELN	4416	Computer Maintenance I	3	3	4
*ELN	4424	Computer Maintenance II	3	3	4
*ELN	4427	Digital Circuits I	3	3	4
*ELN	4434	Digital Circuits II	3	3	4
*ELN	4456	Local Area Networks	3	3	4
*ELN	4464	Electronic Circuit Design (CAD) I	2	6	4
*ELN	4547	Microprocessors I	3	6	5
*ELN	4557	Microprocessors II	3	6	5
*ELN	4567	Microcomputer System Design	3	6	5
*MAT	3508	Engineering Technology Mathematics II	5	0	5
*MAT	3509	Engineering Technology Mathematics III	5	0	5
*PHY	1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
*PHY	1407	Physics IV: Modern Physics	3	2	4
TECHNICAL ELECTIVES					6
					94
General Education Core Requirements:					
*ENG	1504	English Composition I	5	0	5
*ENG	3405	Technical English II	4	0	4
SPH	1300	Oral Communications	3	0	3

* MAT 3507	Engineering Technology Mathematics I	5	0	5
EDP 1407	Computer Concepts & PASCAL Programming I	3	2	4
* PHY 1404	Physics I - Basic Mechanics	3	2	4
SPH 2310	Intercultural Communications	3	0	3
	Self and Society Elective: Choose any course listed under General Education Goal VII.	3	0	3
				31

NOTE: Students may substitute one course from Goal V and one from Goal VI for SPH 2310.
Students may substitute ENG 1505 for ENG 3405.

Total Credit Hours 125

Technical Electives:

* ELN 4284	Cooperative Work Experience I	0	20	2
* ELN 4285	Cooperative Work Experience II	0	20	2
* ELN 4355	Laser Technology	2	3	3
* ELN 4345	Advanced E/E Topics	1	6	3
* ELN 4414	Introduction to RF Communications	3	3	4
* ELN 4415	Industrial Programmable Controllers	3	3	4
* ELN 4437	Robotics	3	3	4
* ELN 4444	Network Analysis	3	3	4
* ELN 4465	Electronic Circuit Design (CAD) II	2	6	4
* ELN 4466	Advanced Local Area Networks	3	3	4
* ELN 4468	Advanced Microprocessors	3	3	4
* ELN 4525	Electrical Machines I	3	6	5

* Prerequisite or corequisite is required; check course description for details.

Computer Operations (V012)

Official Program Description registered with the NC Department of Community Colleges:

The Computer Operations curriculum is designed to prepare the individual for gainful employment as a computer operator. This objective is fulfilled through study and application in areas such as data processing concepts and equipment, computer console operations and data processing applications with related study in mathematics, communications, and business-related courses.

Graduates may find employment in businesses and industries as computer and terminal operators or other related jobs in the computer/operations area.

Diploma Awarded

A Diploma in Computer Operations is awarded by the College upon completion of this program.

Note

SEC 5200 Computer Keyboarding is recommended for students who have not had a typing course in high school or post secondary school.

For More Information

The Computer Operations program is in the Computer and Office Information Systems Department. For more information, call the Department office – (704)342-6549, an instructor - (704)342-6457, or a Program Counselor at (704)342-6426 or 6229, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests determine placement in English (ENG) courses.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
		Major and Related Course Requirements:			
	EDP 1500	**Computer Literacy**	**5**	**0**	**5**
	EDP 5313	**Introduction to Computer Operations**	**3**	**0**	**3**
*	EDP 5614	Mainframe Computer Operations - VSE	5	2	6
*	EDP 5615	Mainframe Computer Operations - MVS	5	2	6
*	EDP 3540	AS/400 Operations and Command Language	3	4	5
*	EDP 5524	General Data Processing Application	3	4	5
	EDP 3514	Programming Logic and Cobol I	3	4	5
*	EDP 4444	RPG Programming	3	2	4
*	ENG 1504	English Composition I	5	0	5
	FIN 3314	**Business Mathematics I**	**3**	**0**	**3**
	BUS 1500	**Introduction to Business**	**5**	**0**	**5**
	ACC 3600	General Accounting	5	2	6
*	EDP 4314	System and Procedure	3	0	3
	SPH 1300	Oral Communication	3	0	3
		TECHNICAL ELECTIVES			5
		General Education Elective	3	0	3

Total Credit Hours 72

Technical Electives:

EDP 3310	Microcomputer Operations	2	2	3
* EDP 3335	Microcomputer Programming MS/DOS	2	2	3
* EDP 5284	Cooperative Work Experience I	0	20	2
* EDP 5285	Cooperative Work Experience II	0	20	2

General Education Electives:

With the approval of an advisor, students may select 3 credit hours from the following:

BUS 3300	Human Relations	3	0	3
ECO 3300	Introduction to Economics	3	0	3
* ENG 3405	Technical English II	4	0	4

* Prerequisite or corequisite is required; check course description for details.

Computer Programming, Business (T022)

Official Program Description registered with the NC Department of Community Colleges:

The primary objective of the Business Computer Programming curriculum is to prepare individuals for gainful employment as computer programmers. The objective is fulfilled through study and application in areas such as computer and systems theories and concepts, data processing techniques, business operations, logic, flow charting, programming procedures and languages and types, uses and operation of equipment.

Entry-level jobs as computer programmer and computer programmer trainee are available. With experience and additional education, the individual may enter jobs such as data processing manager, computer programmer manager, systems analyst and systems manager.

Degree Awarded

The Associate in Applied Science Degree – Business Computer Programming is awarded by the College upon completion of this program.

For More Information

The Business Computer Programming program is in the Computer and Office Information Systems Department. For more information, call the Department office – (704)342-6549 or a Program Counselor – (704)342-6426 or 6229, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests determine placement in English (ENG) and mathematics (MAT) courses.
- **Students entering this program should take courses in bold print first if at all possible.**

First step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
EDP 3514	**Programming Logic and COBOL I**	**3**	**4**	**5**
*EDP 3515	Programming Logic and COBOL II	3	4	5
*EDP 3516	Programming Logic and COBOL III	3	4	5
*EDP 4425	Computer Systems I	3	2	4
*EDP 4435	Computer Systems II	3	2	4
*EDP 4314	Systems and Procedures	3	0	3
*EDP 4315	Applied Business Systems	3	0	3
*EDP 4317	Introduction to Data Bases	2	2	3
*EDP 4517	Batch Data Processing Applications	3	4	5
*EDP 4516	CICS	3	4	5
*EDP 4518	Real Time Data Processing Application	3	4	5
*EDP 4444	RPG Programming	3	2	4
*EDP 4445	Advanced RPG Programming	3	2	4
ACC 1604	Principles of Accounting I	5	2	6
*ACC 1605	Principles of Accounting II	5	2	6
ACC/BUS/MKT/FIN Elective				6
TECHNICAL ELECTIVES				9
				82
General Education Core Requirements:				
***ENG 1504**	**English Composition I**	**5**	**0**	**5**
*ENG 3405	Technical English II	4	0	4
SPH 1300	Oral Communications	3	0	3
*MAT 3504	Technical Mathematics I	5	0	5
SCI 3300	Principles of Science	3	0	3
EDP 1500	**Computer Literacy**	**5**	**0**	**5**
Humanities Elective: Choose any course listed under General Education Goal V.		3	0	3
International Awareness Elective: Choose any course listed under General Education Goal VI		3	0	3
ECO 2304	Economics I	3	0	3
				34
Total Credit Hours				116
Technical Electives:				
*EDP 4284	Cooperative Work Experience I	0	20	2
*EDP 4285	Cooperative Work Experience II	0	20	2
*EDP 4546	Programming Business Applications in RPG	3	4	5
*EDP 3540	AS/400 Operations and Command Language	3	4	5
*EDP 3440	Assembly Language	3	2	4
EDP 3310	Microcomputer Operations	2	2	3
*EDP 3324	Advanced Microcomputer Operations	1	4	3
*EDP 3335	Microcomputer Programming MS-DOS	2	2	3
*EDP 3337	OS/2 Operating System	2	2	3
*EDP 3339	AIX Operating System	2	2	3
*EDP 3410	C Language	3	2	4
*EDP 3411	Advanced C Language Programming	3	2	4

* Prerequisite or corequisite is required; check course description for details.

Correctional and Juvenile Services (T102)

Official Program Description registered with the NC Department of Community Colleges:

The Correctional and Juvenile Services program prepares individuals in the legal, philosophical, technical, and practical aspects of Correctional and Juvenile Law Enforcement. Specific objectives of the curriculum are to develop competency in the following areas: the principles and application of criminal law, the psychology of human behavior, the sociology of social problems, law enforcement in the community, the development of skills in oral and written communications, and an understanding of human relations as successfully employed in Correctional and Juvenile Law Enforcement.

The Correctional and Juvenile Services career offers its personnel an opportunity to contribute to the safety and welfare of society. Graduates of the Correctional and Juvenile Services curriculum have a variety of career opportunities available to them. They work in such diverse areas as juvenile training schools, courts, adult prisons, county jails, community-based alternative programs, and the probation and parole fields. Such careers require individuals with a broad perspective capable of critical and logical thinking.

Job opportunities may include such positions as Juvenile Detention Counselor, Youth Officer, Training School Counselor, Group and Community Organizations Works, Rehabilitation Officer, Correctional Officer, Probation and Parole Officer, Municipal and County Jailer, and Intensive Surveillance Officer.

Degree Awarded

The Associate in Applied Science – Correctional and Juvenile Services is awarded by the College upon completion of this program.

Certification

This program has been certified by the State of North Carolina Criminal Justice Education and Standards Commission.

For More Information

The Correctional and Juvenile Services program is in the Accounting and Public Safety Department. For more information, call the Program Director – (704)342-6026, weekdays, 7:30 a.m.-4:30 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Note

Students interested in transferring to a senior institution should enroll in the 1000- and 2000-level mathematics and English courses noted in the footnotes that follow. Students should also consult with a faculty Advisor or Program Counselor regarding the transferability of this program to senior institutions.

Admissions

- High School Diploma or equivalent is required.
- CPCC placement tests are required for entry into courses in English, mathematics, and reading.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center -(704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Related Course Requirements:						
	CSC 3500	**Introduction to Corrections**	**5**	**0**	**0**	**5**
	CSC 3501	Correctional Counseling and Treatment	5	0	0	5
	CSC 3503	Juvenile Delinquency: Theories Causation, Prevention	5	0	0	5
	CSC 3504	**Juvenile Justice System**	**5**	**0**	**0**	**5**
	CSC 3505	Victimology	5	0	0	5
	CSC 3507	Criminal Personality and Behavior	5	0	0	5
	CSC 3508	Drugs, Society and Crime	5	0	0	5
*	CSC 3509	Court Intake Procedures	5	0	0	5
	CSC 3510	Women in the Criminal Justice System	5	0	0	5
	CSC 3520	Jail Operations and Management	5	0	0	5
*	CSC 3524	Probation and Parole	5	0	0	5
	CSC 4514	Community Based Programs	5	0	0	5
	PSC 3510	Criminal Law	5	0	0	5
	HED 1204	Standard First Aid	1	2	0	2
	Related Electives		6	0	0	6
						73
General Education Core Requirements:						
*	**ENG 1504**	**English Composition I**	**5**	**0**	**0**	**5**
*	ENG 1505	English Composition II[+]	5	0	0	5
	SPH 1300	Oral Communications	3	0	0	3
*	MAT 3325	General College Mathematics	3	0	0	3
	Science and Technology Elective: Choose any course listed under General Education Goal III Area I.		3	0	0	3
	EDP 3310	**Microcomputer Operations**	**2**	**2**	**0**	**3**
	Humanities Elective: Choose any course listed under General Education Goal V.		3	0	0	3
	International Awareness Elective: Choose any course listed under General Education Goal VI.		3	0	0	3
	Self and Society Elective: Choose any course listed under General Education Goal VII.		3	0	0	3
						31
Electives:						
	Any courses numbered 1000-4999		6	0	0	6
	Total Credit Hours					110

Related Electives: (Choose at least 9 hours.)

	ACC 1604	Principles of Accounting I	5	2	0	6
*	CSC 4284	Cooperative Work Experience I	0	0	20	2
	ENG 2308	Report Writing	3	0	0	3
	FIN 3303	Personal Investing	3	0	0	3
	FIN 3314	Business Mathematics I	3	0	0	3
	FIN 4350	Personal Financial Management	3	0	0	3
	HIS 1500	World Civilization I	5	0	0	5
	HIS 1505	The Modern World	5	0	0	5
	HUM 1300	The Ascent of Man .	3	0	0	3
*	MAT 1504	College Algebra I	5	0	0	5
*	MAT 3504	Technical Mathematics I	5	0	0	5
*	MAT 3505	Technical Mathematics II	5	0	0	5
	PHI 1500	Introduction to Philosophy	5	0	0	5
	PSC 4501	Constitutional Law	5	0	0	5
	PSC 4520	Public Relations	5	0	0	5
	POL 1502	American Politics	5	0	0	5
	POL 2500	State and Local Politics	5	0	0	5
	SOC 2514	Introduction to Sociology	5	0	0	5
	SOC 1301	Group Interaction	3	0	0	3
	SPH 2300	Voice and Diction	3	0	0	3
	SPH 2304	Public Speaking	3	0	0	3

[+] MAT 1504, 1505, or 1514 should be taken in lieu of MAT 3325 for students who may later transfer, and ENG 1505 in lieu of ENG 3405.

* Prerequisite or corequisite required; check course description.

Cytotechnology (T232)

Individuals entering this curriculum must have earned a Bachelor's degree with a concentration in the Biological Sciences.

Cytotechnology is an advanced allied health career which prepares the individual to use specialized equipment to study cells for detecting cancer, hormonal abnormalities and other pathological disease processes. Graduates gain knowledge and skills at an entry level of proficiency in how to collect cells, prepare cellular specimens and use a microscope to interpret those specimens. Cytotechnologists evaluate cell samples that have been shed normally, scraped from the body or aspirated with a fine needle. The cytotechnologist works in conjunction with qualified pathologists in performing these special diagnostic procedures.

Cytotechnologists may find employment in hospital laboratories, universities, and private laboratories. Career opportunities include positions in diagnostic cytology, as well as in research, education and administration.

Upon successful completion of the program the graduate will receive a certificate in cytotechnology and will be eligible to take the National Registry Examination of the American Society of Clinical Pathologists.

Certificate Awarded

A Certificate in Cytotechnology is awarded by the College upon completion of this program.

Note

The Cytotechnology program is a full-time, twelve month program that begins fall quarter of each year. Progression in the

program is dependent on satisfying course prerequisites, corequisites and maintaining at least a "C" average in all course work. The program leads to a certificate in Cytotechnology. Graduates of this program may apply to take the registry examination administered by the Board of Registry of the American Society of Clinical Pathologists.

The Cytotechnology Program at CPCC is accredited by the Committee on Allied Health Education and Accreditation (CAHEA) of the American Medical Association (AMA).

Students in the Cytotechnology Program are required to purchase white uniforms. The department requires all students to submit a medical history form, including results of a TB skin test, and to have a hepatitis B vaccination.

Admissions

Students wishing to apply to the Cytotechnology program must complete the following requirements prior to admission:

- Bachelor's degree from an accredited college or university which includes:
  Biology: 20 semester hours (30 quarter hours)
  Chemistry: 8 semester hours (12 quarter hours)
  Mathematics: 3 semester hours (5 quarter hours)
  Humanities: minimum 4 semester hours (6 quarter hours)
- A **2.5 GPA** in science courses as well as an overall **2.0 GPA** is recommended.
- If course work was completed more than **ten years prior to entering the program**, the student must also submit scores from the **Allied Health Professions Admission Test prior to the application deadline.**
- **Non-F1 students** must submit scores from **both** the **Test of Spoken English (TSE)** and the **Test of English as a Foreign Language (TOEFL).**
- **Non-F1 students** must submit **transcript evaluation** for course work completed outside the U.S. from **certain agencies required by the ASCP.** Please note that these agencies may be different from those used for other pro grams at CPCC. A list of acceptable agencies for this pro gram may be obtained from the Health Technologies Counselors at (704) 342-6500 or 6468.
- All students must submit two letters of recommendation directly to the Cytotechnology Program Director from:
  college science professors or
  college science professor and former/current employer

First step to Enroll

Call the Health Technologies Information Specialist (704)342-6193.

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Related Course Requirements:						
CYT	5500	Introduction to Clinical Cytology	5	0	0	5
CYT	5009	Gynecologic Cytology	15	10	0	20
CYT	5304	Introduction to Cytologic Techniques	2	2	0	3
CYT	5011	Non-gynecologic Cytology I	12	8	0	16
CYT	5501	Gynecologic Cytology Practicum I	0	0	15	5
CYT	5012	Non-gynecologic Cytology II	8	8	0	12
CYT	5301	Cytology Seminar I	3	0	0	3
CYT	5311	Non-gynecologic Cytology Practicum I	0	0	9	3
CYT	5402	Gynecologic Cytology Practicum II	0	0	12	4
CYT	5302	Cytology Seminar II	3	0	0	3
CYT	5312	Non-gynecologic Cytology Practicum II	0	0	9	3
CYT	5320	Clinical Cytology Practicum	0	0	9	3
CYT	5503	Gynecologic Cytology Practicum III	0	0	15	5

Data Entry Operations (V129)

Official Program Description registered with the NC Department of Community Colleges:

The Data Entry Operations curriculum is designed to prepare the individual for employment in the field of data preparation and entry. Through study of data descriptions and formats, interpretations of source documents, and experience in using data entry devices, the individual will develop the knowledge and skills for employment as a data entry operator.

Certificate Awarded

A Certificate – Data Entry Operations is awarded by the College upon completion of this program.

For More Information

The Data Entry Operations program is in the Computer and Office Information Systems Department. For more information, call the Department office – (704)342-6549, an instructor-(704) 342-6243, or a Program Counselor – (704)342-6426 or 6229, weekdays, 8 a.m.-5 p.m.

Admissions

- High School Diploma or equivalent is desired.
- Students should take the courses in bold print first if at all possible.

First step to enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
EDP	**5901**	**Data Entry I**[+]	**4**	**15**	**9**
*EDP	5902	Data Entry II[+]	4	15	9
EDP	**3310**	**Microcomputer Operations**	**2**	**2**	**3**
*EDP	3324	Advanced Microcomputer Operations	1	4	3
EDP	**5201**	**CRT Use in Business Applications**	**2**	**0**	**2**
FIN	**3314**	**Business Mathematics I**	**3**	**0**	**3**
ENG	5500	Communication Skills	5	0	5

Total Credit Hours 34

[+]Evening students should take EDP 5601 Data Entry I-A, EDP 5602 Data Entry I-B and II-A, and EDP 5603 Data Entry II-B, instead of EDP 5901 Data Entry I and EDP 5902 Data Entry II.

*Prerequisite or corequisite required; check course description.

Dental Assisting (V011)

Official Program Description registered with the NC Department of Community Colleges:

The Dental Assisting curriculum prepares graduates to assist the dentist in providing treatment services. Functions performed by the dental assistant include dental health education, preparing dental materials, preparing the patient for treatment, taking den-

tal x-rays, maintaining dental supplies and equipment, assisting the dentist, providing selected services for the patient, making appointments, maintaining patient records and other office management procedures. Graduates may be employed by dental offices, dental clinics, public health clinics, federal service clinics, dental schools, state health departments, dental manufacturers, and insurance companies.

Diploma Awarded

A Diploma in Dental Assisting is awarded by the College upon completion of this program.

Note

Students interested in this program must note that there are additional expenses to be covered such as: a thorough medical history and examination, vaccinations, uniforms and CPR. In addition, reliable transportation is needed in order to meet off-campus clinical rotation requirements.

Transferability to a senior institution for specialty training is available. Consult the Program Director.

For More Information

The Dental Assisting program is in the Health Technologies Department. For more information, call the Program Director – (704)342-5951, weekdays, 7:30 a.m. to 4:30 p.m. Program Counselors can be reached by calling (704)342-6500 or 6468.

Admissions

- A High School Diploma or equivalent is required. Contact the Program Director at (704)342-5951 for initial interview.
- CPCC placement tests are required in English, mathematics and reading.
- A counseling/orientation appointment follows placement testing. A final interview with the Program Director is required.
- **Students entering this program should take the courses in bold print first if at all possible.**

First step to enroll

Call the Welcome Center – (704)342-6719

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Related Course Requirements:						
***HLT**	**3300**	**Infection Control**	**3**	**0**	**0**	**3**
***DEA**	**5400**	**Anatomy for Dental Auxiliaries**	**4**	**0**	**0**	**4**
***DEA**	**5502**	**Introduction to Dental Assisting**	**2**	**6**	**0**	**5**
***DEA**	**5602**	**Dental Radiology**	**3**	**6**	**0**	**6**
*DEA	5203	Office Emergencies and Pharmacology	2	0	0	2
*DEA	5303	Oral Health Education	2	2	0	3
*DEA	5724	Clinical Procedures I	2	6	6	7
*DEA	5601	Dental Materials	3	6	0	6
*DEA	5202	Oral Pathology	2	0	0	2
*DEA	5234	Dental Office Management	2	0	0	2
*DEA	5425	Clinical Procedures II	3	2	0	4
*DEA	5543	Dental Office Practice I	0	0	15	5
*DEA	5104	Dental Assistant Issues	1	0	0	1
*DEA	5544	Dental Office Practice IIA	0	0	15	5
*DEA	5545	Dental Office Practice IIB	0	0	15	5
*HLT	5302	Professional Interactions and the Health Worker	3	0	0	3
***ENG**	**1504**	**English Composition I**	**5**	**0**	**0**	**5**
*SPH	1300	Oral Communications	3	0	0	3
*EDP	3310	Microcomputer Operations	2	2	0	3
Total Credit Hours						74

* Prerequisite or corequisite is required; check course description for details.

Dental Hygiene (T054)

Official Program Description registered with the NC Department of Community Colleges:

The Dental Hygiene curriculum prepares graduates to take patient histories, teach oral hygiene, clean teeth, take x-rays, and apply preventive agents under the supervision of a dentist. Dental hygienists may be employed in dentists' offices, clinics, schools, public health agencies, industry and educational institutions.

Graduates are eligible to take the National Board Dental Hygiene Examination, which is administered by the American Dental Association, Joint Commission on Dental Examinations; and the State Board Clinical Examination, which is administered by the North Carolina Board of Dental Examiners. A passing grade on both examinations is required for practice as a Registered Dental Hygienist in North Carolina.

Individuals desiring a career in dental hygiene should take biology, algebra, and chemistry courses prior to entering the program.

Degree Awarded

The Associate in Applied Science Degree – Dental Hygiene Degree is awarded by the College upon completion of this program.

Note

All students are required to be certified in first aid and cardiopulmonary resuscitation before completion of DEN 3203, Office Emergencies.

Costs in this program, in addition to tuition and textbooks, include uniforms, instruments, physical examination, and vaccinations.

For More Information

The Dental Hygiene program is in the Health Technologies Department. For more information, call the Program Director – (704)342-6431, weekdays, 7:30 a.m.-4:30 p.m. Program Counselors can be reached by calling (704)342-6500 or 6468.

Admissions

In any Associate Degree Health Technologies program for which there are more applicants who have completed the pre-admission requirements than there are positions, admission points will be assigned according to the applicant's documented record.

Applicants will be admitted to the program in descending order of point totals until all positions are filled.

The pre-admission requirements are as follows:

- Complete a CPCC application.
- Submit high school transcripts as well as any college transcripts.
- Take required placement tests.
- Attend Health Technologies Counselor orientation.
- Complete any required advancement studies classes with a C or better.
- Complete at least high school level Chemistry with a C or better within the last 5 years (RTH, DEN, ADN).
- Complete the Health Technologies Core Curriculum.
- **Students entering this program should take the courses in bold print if at all possible.**

First step to Enroll
Call the Health Technologies Information Specialist – (704)342-6193.

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Related Course Requirements:						
	BIO 2304	Human Nutrition	3	0	0	3
*	BIO 1505	Anatomy and Physiology II	3	4	0	5
*	CHM 3502	Chemistry for Dental Hygiene	4	2	0	5
*	DEN 3401	Dental Anatomy	3	2	0	4
*	DEN 3411	Preclinical Dental Hygiene I	2	4	0	4
*	DEN 3202	Head and Neck Anatomy	2	0	0	2
*	DEN 3302	Histology and Oral Embryology	3	0	0	3
*	DEN 3512	Preclinical Dental Hygiene II	2	6	0	5
*	DEN 3203	Office Emergencies	2	0	0	2
*	DEN 3223	Dental Health Education	1	2	0	2
*	DEN 3503	Dental Radiology	3	4	0	5
*	DEN 3513	Clinical Dental Hygiene I	2	0	9	5
*	DEN 4305	Periodontology	3	0	0	3
*	DEN 4505	Dental Materials	3	4	0	5
*	DEN 4715	Clinical Dental Hygiene II	2	0	15	7
*	DEN 4206	Chairside Assisting	1	2	0	2
*	DEN 4226	Pharmacology	2	0	0	2
*	DEN 4306	Pathology	3	0	0	3
*	DEN 4406	Community Dental Hygiene I	3	2	0	4
*	DEN 4616	Clinical Dental Hygiene II	1	0	15	6
*	DEN 4207	Community Dental Hygiene II	1	0	3	2
	DEN 4307	Dental Hygiene Practice	2	0	3	3
*	DEN 4617	Clinical Dental Hygiene IV	1	0	15	6
	HLT 3300	Infection Control	3	0	0	3
						91
General Education Core Requirements:						
*	**ENG 1504**	**English Composition I**	**5**	**0**	**0**	**5**
*	ENG 3405	Technical English II	4	0	0	4
	SPH 1300	Oral Communication	3	0	0	3
*	**MAT 1504**	**College Algebra**	**5**	**0**	**0**	**5**
	BIO 1504	**Anatomy & Physiology I**	**3**	**4**	**0**	**5**
	EDP 3310	Microcomputer Operations	2	2	0	3
	SPH 2310	Intercultural Communications	3	0	0	3
	Elective Self and Society		3	0	0	3
						31

Total Credit Hours 122

* Prerequisite or corequisite is required; check course description for details.

Diesel Vehicle Maintenance (V013)

Official Program Description registered with the NC Department of Community Colleges:

The Diesel Vehicle Maintenance curriculum provides a program for developing the basic knowledge and skills needed in diesel vehicle maintenance. Manual skills are developed in practical shop work.

The use of diesel engines is found in farm and construction equipment, electric generators, trucks, buses, trains, automobiles and ships. Many diesel vehicle mechanics specialize in maintenance and repair of equipment; others specialize in rebuilding engines.

Diesel vehicle mechanics are instructed through class assignments, discussion and shop practice to maintain and repair engines, chassis and suspensions, and power trains used to power farm equipment, construction equipment, buses and trucks. They use hand tools, precision measuring and testing instruments, and power tools in overhauling and maintaining diesel-powered equipment.

Diploma Awarded

A Diploma in Diesel Vehicle Maintenance is awarded by the College upon completion of this program.

For More Information

The Diesel Vehicle Maintenance program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6782, or the Technical Careers Department – (704)342-6930, weekdays, 8 a.m.-5p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- Completion of a High School Diploma or the equivalent is encouraged as a foundation for a career in this area.

First Step to Enroll
Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
	AUT 5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
*	DSL 5204	Diesel Vehicle Maintenance Co-Op I	0	20	2
	DSL 5206	Cab Heating & A/C	1	3	2
	DSL 5300	Diesel Fundamentals	2	2	3
	DSL 5304	Hydraulics and Pneumatics	2	2	3
	DSL 5308	Air Brakes	2	2	3
	DSL 5309	Electronic Diesel Injection Systems	2	2	3
	DSL 5310	Diesel Tune-up and Troubleshooting	2	2	3
	DSL 5311	Fleet Maintenance Practices	2	2	3
	DSL 5312	Basic Electricity	2	2	3
	DSL 5313	Electrical - Electronic Testing	2	2	3
	DSL 5408	Heavy Duty Chassis and Suspension Systems	2	4	4
	DSL 5409	Heavy Duty Drive Train	2	4	4
	DSL 5410	Diesel Engines I	2	2	4
	DSL 5411	Hydromechanical Diesel Injection Systems	2	4	4
	DSL 5412	Diesel Engines II	2	4	4
	EDP 3310	Microcomputer Operations	2	2	3
	ENG 5500	Communication Skills	5	0	5
	HSA 5200	Human Relations	2	0	2
	PHY 5304	Applied Physics I	2	2	3
*	PHY 5305	Applied Physics II	2	2	3
	WLD 5210	Basic Oxyacetylene Welding	1	3	2
	WLD 5220	Basic Electric Arc Welding	1	3	2
	TECHNICAL ELECTIVE				3

Total Credit Hours 75

Technical Electives:

*	DSL 5205	Diesel Vehicle Maintenance Co-Op II	0	20	2
*	DSL 5207	Diesel Vehicle Maintenance Co-Op III	0	20	2
	DSL 5321	Transport Refrigeration	2	2	3

* Prerequisite or corequisite is required; check course description for details.

Diesel Vehicle Maintenance Certificates (V013-A, B, C)

Specialization Certificates

The certificates listed below can be earned in the Diesel Vehicle Maintenance (V013) program.

For More Information

For more information, call the Program Director – (704)342-6782, or the Technical Careers Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Diesel Vehicle Maintenance Certificate With a Specialization in Fuel Injection (V013-A)

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
AUT	5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
*DSL	5205	Diesel Vehicle Maintenance Co-Op II	0	20	2
DSL	5300	Diesel Fundamentals	2	2	3
DSL	5304	Hydraulics and Pneumatics	2	2	3
DSL	5309	Electronic Diesel Injection Systems	2	2	3
DSL	5312	Basic Electricity	2	2	3
DSL	5313	Electrical – Electronic Testing	2	2	3
DSL	5411	Hydromechanical Diesel Injection Systems	2	4	4
PHY	5304	Applied Physics I	2	2	3
PHY	5305	Applied Physics II	2	2	3

Total Credit Hours 31

Diesel Vehicle Maintenance Certificate With a Specialization in Engines (V013-B)

AUT	5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
*DSL	5204	Diesel Vehicle Maintenance Co-Op I	0	20	2
DSL	5300	Diesel Fundamentals	2	2	3
DSL	5304	Hydraulics and Pneumatics	2	2	3
DSL	5310	Diesel Tune-up and Troubleshooting	2	2	3
DSL	5312	Basic Electricity	2	2	3
DSL	5313	Electrical – Electronic Testing	2	2	3
DSL	5410	Diesel Engines I	2	4	4
DSL	5412	Diesel Engines II	2	4	4
PHY	5304	Applied Physics I	2	2	3
PHY	5305	Applied Physics II	2	2	3

Total Credit Hours 35

Diesel Vehicle Maintenance Certificate With a Specialization in Fleet Service (V013-C)

AUT	5403	Basic Calculations for Auto and Diesel Technicians	4	0	4
*DSL	5204	Diesel Vehicle Maintenance Co-Op I	0	20	2
DSL	5300	Diesel Fundamentals	2	2	3
DSL	5304	Hydraulics and Pneumatics	2	2	3
DSL	5311	Fleet Maintenance Practices	2	2	3
DSL	5312	Basic Electricity	2	2	3
DSL	5313	Electrical – Electronic Testing	2	2	3
DSL	5410	Diesel Engines I	2	4	4
EDP	3310	Microcomputer Operations	2	2	3
PHY	5304	Applied Physics I	2	2	3
*PHY	5305	Applied Physics II	2	2	3

Total Credit Hours 34

* Prerequisite or corequisite is required; check course description for details.

Drafting – Mechanical (V017)

Official Program Description registered with the NC Department of Community Colleges:

The Drafting – Mechanical curriculum prepares individuals to enter the field of mechanical drafting. Courses are arranged in sequence to develop drafting skills and proficiency in mathematics and science. The drafter associates with many personnel – administrators, engineers and skilled workers – and must be able to communicate effectively with them.

The mechanical drafting graduate performs the duties of a general drafter, specializing in making rough drafting sketches of proposed mechanical devices and then draws necessary details. The drafter also prepares accurate scale drawings of parts for machines from specifications.

Diploma Awarded

A Diploma in Mechanical Drafting is awarded by the College upon completion of this program.

Students may apply appropriate courses toward the Mechanical or Manufacturing Engineering Technology programs.

Note

The Mechanical Drafting program at CPCC is a comprehensive Computer Aided Drafting (CAD) curriculum that emphasizes CAD throughout the program from basic part drawings to complete detailing and assembly working drawings. Students gain extensive hands-on experience with both small and large CAD systems.

Completion of the program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technological problems.

For More Information

The Mechanical Drafting program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – (704)342-6881 or the Program Director – (704)342-6553, weekdays, 8 a.m.-5 p.m.

Admission

- High School Diploma or equivalent is required. High School students preparing for an engineering technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy and science.
- Placement tests in English and mathematics determine the entry-level courses that match individual needs. Advance ment Studies (9000-series) mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
*DFT 3314	Mechanical CAD, AutoCAD 2-D	2	3	3
*DFT 3317	CAD Detailing	1	6	3
*DFT 3318	CAD Assembly	1	6	3
*DFT 3319	CAD Project	1	6	3
*DFT 3320	Mechanical CAD, AutoCAD 3-D	1	6	3
*DFT 3221	Solids Modeling and Rendering AutoCAD	1	3	2
DFT 3404	Mechanical Drafting	2	4	4
EDP 3310	Microcomputer Operations	2	2	3
MAC 3201	Machine Operations for Engineering Technicians	1	3	2
*MAC 3312	Computer Numerical Control Graphics Programming for Engineering Technicians	2	2	3
MAT 3504	Technical Mathematics I	5	0	5
*MAT 3306	Technical Trigonometry	3	0	3
MEC 3101	College and Career Orientation	1	0	1
*MEC 3320	Geometric Dimensioning and Tolerancing (GD & T)/Metrology	2	3	3
*MEC 3504	Production Methods	4	2	5
MEC 5214	Applied Metallurgy I+	1	3	2
*MEC 5215	Applied Metallurgy II+	1	3	2
*MFG 4307	Introduction to Robotics	2	3	3
PHY 5304	Applied Science I	2	2	3
*PHY 5305	Applied Science II	2	2	3
*ENG 1504	English Composition I	5	0	5
*ENG 3405	Technical English II	4	0	4
	TECHNICAL ELECTIVES			6
Total Credit Hours				74

Technical Electives:

*EDP 3335	Microcomputer Programming MS/DOS	2	2	3
EDP 3405	Microcomputer Programming BASIC	3	2	4
*MAC 4317	Computer Numerical Control Graphics Programming - Turning Center	2	2	3
*MAC 4318	Computer Numerical Control Graphics Programming - Machining Center	2	2	3
*MEC 4284	Cooperative Work Experience I	0	20	2
*MEC 4434	Hydraulics and Pneumatics	3	3	4
*MFG 3307	Introduction to Computer Integrated Manufacturing (CIM)	2	3	3
*MFG 4305	Plant Layout and Materials Handling	2	3	3

+ MEC 4403 may be taken in lieu of MEC 5214 and MEC 5215.

* Prerequisite or corequisite is required; check course description for details.

Early Childhood Associate (T073)

Official Program Description registered with the NC Department of Community Colleges:

The Early Childhood Associate curriculum is designed to prepare individuals to work with children in learning environments from infancy through middle childhood. The program of study includes the subjects of child growth and development, physical and nutritional needs of children, care and guidance of children, and communication with children and their parents. Students learn to foster the cognitive/language, physical/motor, and social/emotional development of children. The program of study combines theories and principles with opportunities for supervised practice.

Graduates are prepared to plan and implement developmentally appropriate programs in early childhood settings. Employment opportunities are available in child development and child care programs, preschools, public and private schools, recreational centers, kindergartens, some Head Start programs, and programs for children with special needs.

Degree Awarded

The Associate in Applied Science Degree – Early Childhood is awarded by the College upon completion of this program.

Program Accreditation

Early Childhood Associate and Human Services Technology courses have been approved by the National Board for Certified Counselors (NBCC) for Professional Counselor (NCC) renewal credit. All Early Childhood courses may be applied for training hours required by the North Carolina Division of Child Development.

Note

Students interested in transferring to a senior institution should enroll in the 1000- and 2000-level mathematics and English courses noted in the list of courses. Students should also consult with a faculty Advisor or Program Counselor regarding the transferability of this program to senior institutions.

For More Information

The Early Childhood Associate program is in the Human Services Department. For more information, call the Program Director – (704)342-6764, weekdays, 8 a.m.-5 p.m. The Program Counselor can be reached at (704)342-6392.

Admissions

- A High School Diploma or equivalent is required.
- After completing admissions form and placement tests, students will then see the Program Counselor who will advise them before they see the Program Director. An interview with the Program Director is required for entry into the program.

First Step to Enroll

Call the Welcome Center - (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	WK- EXP /WK	HRS CR/ QTR
Major and Related Course Requirements:					
ECA 3300	Child Growth and Development I	3	0	0	3
ECA 3301	Child Growth and Development II	3	0	0	3
ECA 3302	Child Growth and Development III	3	0	0	3
ECA 3305	Child Health, Safety & Nutrition	3	0	0	3
ECA 3321	Introduction to Early Childhood Education	3	0	0	3
*ECA 3322	Seminar/Practicum I	2	0	10	3
ECA 3406	Exploration Activities in Early Childhood	3	2	0	4
ECA 3424	Creative Activities in Early Childhood	3	2	0	4
ECA 3426	Communication Activities in Early Childhood	3	2	0	4

ECA 3525	Early Childhood Curriculum Planning & Methods	5	0	0	5
*ECA 4322	Seminar/Practicum II	2	0	10	3
*ECA 4323	Seminar/Practicum III	2	0	10	3
ECA 3303	Introduction to Day Care Administration	3	0	0	3
ECA 3304	Guidance for Young Children	3	0	0	3
ECA 4300	Working with Parents	3	0	0	3
ECA 3310	The Exceptional Child	3	0	0	3
ECA 4310	Adult-Child Relations	3	0	0	3
ECA 3311	Infant-Toddler Development	3	0	0	3
HED 1302	Sexual Development of Children	3	0	0	3
MUS 1304	Children's Music I	3	0	0	3
HED 1204	First Aid Responding to Emergencies	1	2	0	2
HED 1203	Cardiopulmonary Resuscitation (CPR)	2	0	0	2
SOC 1500	Sociology of the Family	5	0	0	5
Free Elective					3
Related Elective					5
					82

General Education Core Requirements:

*ENG 1504	English Composition I	5	0	0	5
*ENG 3405	Technical English II or	4	0	0	4
*ENG 1505	English Composition II	5	0	0	5
SPH 1300	Oral Communication	3	0	0	3
*MAT 3325	General College Mathematics	3	0	0	3
SCI 3300	Principles of Science	3	0	0	3
EDP 3310	Microcomputer Operations	3	0	0	3
SPH 2310	Intercultural Communications	3	0	0	3
HSA 3502	Interpersonal Relationships I	5	0	0	5
					29

Related Electives:

Choose 5 credit hours from these courses.

HSA 3421	Stress and Crisis in Contemporary Society	4	0	0	4
ECA 3360	Understanding Adolescence	3	0	0	3
MUS 1305	Children's Music II	3	0	0	3
PSY 2504	General Psychology	5	0	0	5

Total Credit Hours 111

* Prerequisite or corequisite is required; check course description for details.

Early Childhood Certificate (T073-A)

Specialization Certificates

The Certificate listed below can be earned in the Early Childhood Associate (T073) program and can be applied toward the Early Childhood Associate Degree.

For More Information

The Early Childhood Certificate program is in the Human Services Department. For more information, call the Program Director – (704)342-6764, weekdays, 8 a.m.-5 p.m.

First step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	WK-EXP /WK	HRS CR/ QTR
The Early Childhood Certificate					
ECA 3301	Child Growth and Development II	3	0	0	3
ECA 3304	Guidance for Young Children	3	0	0	3
ECA 3424	Creative Activities in Early Childhood	3	2	0	4
ECA 3406	Exploration Activities in Early Childhood	3	2	0	4
ECA 3426	Communication Activities in Early Childhood	3	2	0	4
ECA 3322	Seminar/Practicum I	2	0	10	3

Total Credit Hours 21

Note: The North Carolina Child Care Credential will be awarded by the State of North Carolina upon successful completion of the following courses:

ECA 3307	Child Care Credential I	3	0	0	3
ECA 3308	Child Care Credential II	3	0	0	3

Total Credit Hours.....6

Electrical Engineering Technology (T044)

Official Program Description registered with the NC Department of Community Colleges:

This curriculum is designed to train technicians for jobs in the areas of research, design, development, production, maintenance, and sale of electrical and power generation equipment.

The electrical engineering technician may work as a laboratory technician or as an engineering aide in research, design or development in direct support of an engineer, or as a liaison between the engineer and the skilled craftsperson. The graduate may accept a position in maintenance or sales work requiring a strong background in electrical equipment design and operation.

Degree Awarded

The Associate in Applied Science Degree – Electrical Engineering Technology is awarded by the College upon completion of the program.

Program Accreditation

The Electrical Engineering Technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

The Electrical Engineering Technology program provides a basic background in the practical application of both fundamental and specialized electrical and electronic principles. Courses are designed to present technical content in an order that provides students with progressive levels of job-related knowledge and skills. From fundamental electrical and electronic courses, students advance to electrical specialty courses that provide concentrated study in various fields of the electrical industry, including industrial controls, planning electrical installations, power electronics, electrical machines and programmable logic controllers, and automated manufacturing/robotics.

The Computer/Electrical/Electronics Engineering Technology laboratories are staffed during day and evening hours so that students may devote as much time as possible to laboratory

assignments. These modern facilities include adequate equipment to support practical laboratory activity in all courses.

Students who do not take program-related courses for four consecutive quarters must re-enter the program under the Catalog in effect at the time of re-entry.

For More Information

The Electrical Engineering Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Director – (704)342-6479, weekdays between 9 a.m. and 5 p.m. or the Program Counselor at (704)342-6881.

Admissions

- A High School Diploma or equivalent is required. High school students preparing for an Engineering Technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.
- CPCC placement tests are required in English and mathematics. Advancement Studies (9000-series) mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Major and Related Course Requirements:

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*EDP 3335	Microcomputer Programming - MS/DOS	2	2	3
ELN 3100	Computer/Electrical/Electronics Orientation	1	0	1
*ELN 3404	Electronics I	3	3	4
*ELN 3405	Electronics II	3	3	4
*ELN 3414	Industrial Instrumentation	3	3	4
*ELN 3514	Basic Electricity (DC)	3	6	5
*ELN 3515	Basic Electricity (DC)	3	6	5
*ELN 4100	Technical Career Planning	1	0	1
*ELN 4326	Electrical/Electronics Project	1	6	3
*ELN 4401	Planning Electrical Installations	3	3	4
*ELN 4415	Industrial Programmable Controllers	3	3	4
*ELN 4427	Digital Circuits I	3	3	4
*ELN 4436	Systems Correction Procedure	3	3	4
*ELN 4444	Network Analysis	3	3	4
*ELN 4464	Electronic Circuit Design (CAD) I	2	6	4
*ELN 4505	Power Electronics	3	6	5
*ELN 4525	Electrical Machines I	3	6	5
*ELN 4526	Electrical Machines II	3	6	5
*MAT 3508	Engineering Technology Mathematics II	5	0	5
*MAT 3509	Engineering Technology Mathematics III	5	0	5
*PHY 1405	Physics II - Elastic & Thermal Properties of Matter	3	2	4
*PHY 1405	Physics IV - Modern Physics	3	2	4
TECHNICAL ELECTIVES				8
				95

General Education Core Requirements:

*ENG 1504	English Composition	5	0	5
*ENG 3405	Technical English II	4	0	4
*SPH 1300	Oral Communications	3	0	3
*MAT 3507	Engineering Technology Mathematics I	5	0	5
*PHY 1404	Physics I - Basic Mechanics	3	2	4
EDP 1407	Computer Concepts & PASCAL Programming I	3	2	4
SPH 3310	Intercultural Communications	3	0	3
Self and Society Elective: Choose any course listed under General Education Goal VII.		3	0	3
				31

Note: Students may substitute one course from Goal V and one from Goal VI for SPH 2310.
Students may substitute ENG 1505 for ENG 3405.

Total Credit Hours 126

Technical Electives:

*ELN 4284	Cooperative Work Experience I	0	20	2
*ELN 4285	Cooperative Work Experience II	0	20	2
*ELN 4345	Advanced E/E Topics	1	6	3
*ELN 4434	Digital Circuits II	3	3	4
*ELN 4437	Robotics	3	3	4
*ELN 4445	Advanced Programmable Logic Controllers	3	3	4
*ELN 4465	Electronic Circuit Design (CAD) II	2	6	4
*ELN 4547	Microprocessors I	3	6	5
*ELN 4557	Microprocessors II	3	6	5

* Prerequisite or corequisite is required; check course description for details.

Electrical Installation and Maintenance (V018)

Official Program Description registered with the NC Department of Community Colleges:

The Electrical Installation and Maintenance curriculum is designed to provide a training program in the basic knowledge, fundamentals and practices involved in the electrical trades. A large segment of the program is laboratory and shop instruction designed to give the student practical knowledge and application experience in the fundamentals taught in class.

The graduate of this curriculum is qualified to enter an electrical trade as an on-the-job trainee or apprentice, assisting in the layout, installation, check-out and maintenance of systems in residential, commercial or industrial settings.

Diploma Awarded

A Diploma in Electrical Installation and Maintenance is awarded by the College upon completion of this program.

For More Information

The Electrical Installation and Maintenance program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6772, or the Technical Careers Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- Completion of the High School Diploma or equivalent is encouraged as the foundation of a career in this area.

First step to Enroll:

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
AHR	5314	Automatic Controls	2	3	3
ELC	5200	Electrical and Building Trades Blueprint Reading	1	2	2
ELC	5302	Instrumentation	2	3	3
ELC	5310	Electrical Schematics	2	3	3
ELC	5400	Direct Current	2	6	4
ELC	5401	Basic Calculations for Electricians	4	0	4
*ELC	5402	Alternating Current	3	3	4
*ELC	5403	Commercial and Industrial Wiring II	2	6	4
ELC	5404	Commercial and Industrial Wiring I	2	6	4
ELC	5410	Residential Wiring I	3	3	4
ELC	5411	Industrial Electronics	3	3	4
*ELC	5425	Residential Wiring II	2	6	4
ELC	5426	Programmable Controllers 1	2	6	4
*ELC	5427	Programmable Controllers II	2	6	4
ELC	5450	Machines and Control I	2	6	4
*ELC	5455	Machines and Controls II	2	6	4
ENG	5500	Communication Skills	5	0	5
HSA	5200	Human Relations	2	0	2
PHY	5304	Shop Science I	2	2	3
WLD	5220	Basic Electric Arc Welding	1	3	2
Total Credit Hours					71

* Prerequisite or corequisite is required; check course description for details.

Electrical Installation and Maintenance Certificates

(V018-A, B, C)

Specialization Certificates

The Certificates listed below can be earned in the Electrical Installation and Maintenance (V018) program.

For More Information

For more information, call the Program Director – (704)342-6672, or the Technical Careers Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- Completion of the High School Diploma or equivalent is encouraged as the foundation of a career in this area.

First step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Electrical Installation and Maintenance Certificate With a Specialization in Residential Wiring (V018-A)					
ELC	5200	Blueprint Reading	1	2	2
ELC	5400	Direct Current	2	6	4
ELC	5401	Basic Calculations for Electricians	4	0	4
ELC	5410	Residential Wiring I	3	3	4
*ELC	5425	Residential Wiring II	2	6	4
					18
Electrical Installation and Maintenance Certificate With a Specialization in Commercial and Industrial Installation (V018-B)					
ELC	5200	Blueprint Reading	1	2	2
ELC	5401	Basic Calculations for Electricians	4	0	4
*ELC	5403	Commercial and Industrial Wiring II	2	6	4
ELC	5404	Commercial and Industrial Wiring I	2	6	4
ELC	5411	Industrial Electronics	2	4	4
WLD	5220	Basic Electric Arc Welding	1	3	2
					20
Electrical Installation and Maintenance Certificate With a Specialization in Electrical Controls (V018-C)					
ELC	5302	Instrumentation	2	3	3
ELC	5310	Electrical Schematics	2	3	3
ELC	5426	Programmable Controllers I	2	6	4
*ELC	5427	Programmable Controllers II	2	6	4
ELC	5450	Machines and Controls I	2	6	4
*ELC	5455	Machines and Controls II	2	6	4
					22

* Prerequisite or corequisite is required; check course description for details.

Electronics Engineering Technology (T045)

Official Program Description registered with the NC Department of Community Colleges:

The Electronics Engineering Technology curriculum provides a basic background in electronic-related theory, with practical applications of electronics for business and industry. Courses are designed to develop competent electronics technicians who may work as assistants to engineers or as liaisons between engineers and skilled craftspersons.

The electronic technician will start in one or more of the following areas: research, design, development, production, maintenance, or sales. The graduate may begin as a electronics technician, an engineering aide, laboratory technician, supervisor, or equipment specialist.

Degree Awarded

The Associate in Applied Science Degree – Electronics Engineering Technology is awarded by the College upon completion of this program.

Program Accreditation

The Electronics Engineering Technology program at CPCC is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

Electronics Engineering Technology involves the practical application of electrical and electronic fundamentals of design, fabrication, manufacturing, testing, repair, and maintenance of electronic components, circuits, and systems. The electronics engineering technician is concerned with analog and digital circuitry, microprocessors, microcomputers, and their practical application in modern industrial settings.

The Electronics Engineering Technology curriculum provides a basic background in the practical application of both fundamental and specialized electronic principles. Courses are designed to present technical content in an order that provides students with progressive levels of job-related knowledge and skills. From fundamental electrical and electronic courses, students advance to electronic specialty courses that provide concentrated study in various fields of the electronic industry, including computer-electronics, microprocessors, systems main-

tenance, data communication, robotics, and printed circuit board layout and design using CAD.

The Computer/Electrical/Electronics Engineering Technology laboratories at CPCC are staffed during day and evening hours so that students may devote as much time as possible to laboratory assignments. These modern facilities include adequate equipment to support practical laboratory activity in all courses.

Students who do not take program-related courses for four consecutive quarters must re-enter the program under the Catalog in effect at the time of re-entry.

For More Information

The Electronics Engineering Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Director – 342-6479, weekdays, 9 a.m.-5 p.m. The Program Counselor can be reached at (704)342-6881.

Admissions

- A High School Diploma or equivalent is required. High school students preparing for an Engineering Technology program should complete courses in algebra, geometry, and advanced math. Skills and proficiencies should be developed in writing, computer literacy, and science.
- CPCC placement tests are required in English and mathematics. Advancement studies (9000-series) mathematics and English courses are available for students to build basic skills and knowledge.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
*EDP 3335	Microcomputer Programming MS/DOS	2	2	3
ELN 3100	Computer/Electrical/Electronics Orientation	1	0	1
*ELN 3404	Electronics I	3	3	4
*ELN 3405	Electronics II	3	3	4
*ELN 3414	Industrial Instrumentation	3	3	4
*ELN 3514	Basic Electricity (DC)	3	6	5
*ELN 3515	Basic Electricity (AC)	3	6	5
*ELN 4100	Technical Career Planning	1	0	1
*ELN 4326	Electrical/Electronics Project	1	6	3
*ELN 4427	Digital Circuits I	3	3	4
*ELN 4434	Digital Circuits II	3	3	4
*ELN 4436	Systems Correction Procedure	3	3	4
*ELN 4444	Network Analysis	3	3	4
*ELN 4464	Electronic Circuit Design (CAD) I	2	6	4
*ELN 4525	Electrical Machines I	3	6	5
*ELN 4547	Microprocessors I	3	6	5
MAT 3508	Engineering Technology Math II	5	0	5
MAT 3509	Engineering Technology Math III	5	0	5
PHY 1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
PHY 1407	Physics IV: Modern Physics	3	2	4
TECHNICAL ELECTIVES				16
				94
General Education Core Requirements:				
*ENG 1504	English Composition I	5	0	5
*ENG 3405	Technical English II+	4	0	4
*SPH 1300	Oral Communications	3	0	3
MAT 3507	Engineering Technology Math I	5	0	5
EDP 1407	Computer Concepts & PASCAL Programming I	3	2	4
PHY 1404	Physics I: Basic Mechanics	3	2	4
SPH 2310	Intercultural Communications++	3	0	3
Self and Society Elective: Choose any course listed under General Education Goal VII.		3	0	3
				31

Total Credit Hours 125

++Students may substitute one course from Goal V and one from Goal VI for SPH 2310.

+ Students may substitute ENG 1505 for ENG 3405.

Technical Electives:

*ELN 4284	Cooperative Work Experience	0	20	2
*ELN 4285	Cooperative Work Experience II	0	20	2
*ELN 4345	Advanced E/E Topics	1	6	3
*ELN 4355	Laser Technology	2	3	3
*ELN 4414	Introduction to RF Communications	3	3	4
*ELN 4415	Industrial Programmable Controllers	3	3	4
*ELN 4416	Computer Maintenance I	3	3	4
*ELN 4437	Robotics	3	3	4
*ELN 4445	Advanced Programmable Logic Controllers	3	3	4
*ELN 4456	Local Area Networks	3	3	4
*ELN 4465	Electronic Circuit Design (CAD) II	2	6	4
*ELN 4468	Advanced Microprocessors	3	3	4
*ELN 4474	Electro-Optics	3	3	4
*ELN 4475	Fiber Optics	3	3	4
*ELN 4485	Microwave Communications	3	3	4
*ELN 4505	Power Electronics	3	6	5
*ELN 4557	Microprocessors II	3	6	5
*ELN 4567	Microcomputer System Design	3	6	5

* Prerequisite or corequisite is required; check course description for details.

Fashion Merchandising and Marketing (T143)

Official Program Description registered with the NC Department of Community Colleges:

The Fashion Merchandising and Marketing curriculum is designed to provide individuals with fundamental skills in fashion and merchandising activities. The individual will become familiar with the properties, characteristics, and construction of fabrics, leather, fur, millinery, wigs, jewelry, and cosmetics. Emphasis will be placed on selling techniques, buying, merchandising, displaying, pricing, stock planning and control.

Employment opportunities as assistant buyers, buyers, fashion coordinators, fashion stylists, indoor display specialists, merchandise clerks and store managers or owners will be available in department store and specialty stores, wholesale and manufacturing firms, buying offices, and advertising agencies.

Degree Awarded

The Associate in Applied Science Degree – Fashion Merchandising and Marketing is awarded by the College upon completion of this program.

Note

Students apply what they learn in the classroom by planning and implementing live projects and field trips. Through participation in Cooperative Education, students work in their chosen fields gaining valuable job experience while obtaining college credit. Charlotte is a base of operation for national and local retailers and has a large apparel industry. The Cooperative Edu-

cation office works closely with retailers of all sizes and with the Charlotte Apparel Mart in matching student interests and competencies.

For More Information

The Fashion Merchandising and Marketing program is in the Business Administration Department. For more information, call the Program Director at (704)342-6284 or 6646 weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6426.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests in English, mathematics and reading determine placement in English (ENG) and mathematics (MAT) courses.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
FAS	**3300**	**Introduction to Fashion Merchandising**	**3**	**0**	**3**
FAS	3310	Retail Advertising/Promotions	3	0	3
FAS	3320	Psychology of Fashion	3	0	3
FAS	4310	Store Operations	3	0	3
MKT	4320	Retailing	3	0	3
MKT	**3320**	**Fundamentals of Selling**	**3**	**0**	**3**
MKT	4305	Advanced Selling Skills	3	0	3
MKT	4354	Visual Merchandising	3	0	3
MKT	4386	Marketing Research	3	0	3
MKT	4340	Merchandising	3	0	3
MKT	4321	Advertising	3	0	3
MKT	4384	Customer Service	3	0	3
MKT	4385	Service Marketing	3	0	3
MKT	4322	Purchasing	3	0	3
BUS	**1500**	**Introduction to Business**	**5**	**0**	**5**
***FIN**	**3314**	**Business Mathematics I[+]**	**3**	**0**	**3**
MGT	2314	Principles of Management	3	0	3
MGT	3303	Small Business Management	3	0	3
MGT	4332	Human Resource Management I	3	0	3
MKT	1304	Marketing I	3	0	3
MKT	1305	Marketing II	3	0	3
EDP	3324	Advanced Microcomputer Operations	2	2	3
BUS	3300	Human Relations	3	0	3
		TECHNICAL ELECTIVES	7	0	7
		Free Electives	7	0	7
					85
General Education Core Requirements:					
***ENG**	**1504**	**English Composition I**	**5**	**0**	**5**
*ENG	1505	English Composition II or			
*ENG	3405	Technical English	4	0	4
SPH	1300	Oral Communications	3	0	3
*MAT	3325	General College Mathematics[+]	3	0	3
		Science and Technology Elective: Choose any course listed under General Education Goal III Area I.	3	0	3
EDP	3310	Microcomputer Operations	2	2	3
ART	1300	Introduction to Art	3	0	3
INT	3300	Introduction to International Business	3	0	3
ECO	2304	Economics I	3	0	3
					30

Total Credit Hours 115

***Technical Electives*:**

With the approval of the advisor, students chooses seven (7) hours from technical electives listed below:

FAS	3210	Fashion Show Production	1	2	2
FAS	4220	New York Study	1	2	2
MKT	3204	Cooperative Education I	0	20	2
MKT	3205	Cooperative Education II	0	20	2
MKT	3206	Cooperative Education III	0	20	2
MKT	4325	Sales Management	3	0	3
MKT	4387	Public Relations	3	0	3
BUS	3305	Human Relations II	3	0	3
TRN	4356	Introduction to Logistics	3	0	3
INT	3305	International Marketing	3	0	3
INT	3306	International Business Practice	3	0	3

[+] MAT 1504 or 1505 should be taken in lieu of MAT 3335 for students who may later transfer.

* Prerequisite or corequisite is required; check course description for details.

Fire Protection Technology (T063)

Official Program Description registered with the NC Department of Community Colleges:

The Fire Protection Technology curriculum is designed to enable individuals to draw on technical and professional knowledge in making effective decisions concerning fire protection. Through technical education, the individual acquires specialized knowledge in the field of public service and develops specific competencies for the performance of fire service administrative and supervisory duties. The curriculum includes areas such as the scientific understanding of fire hazards and their control and general courses that prepare one to work with people harmoniously.

Opportunities are excellent for the individual with adequate training and ability. Students seeking employment may be hired by governmental agencies, industrial firms, educational organizations and insurance rating organizations. Employed persons should have opportunities for positions requiring increased skill and responsibility as they increase their job competence.

Degree Awarded

The Associate in Applied Science Degree – Fire Protection Technology is awarded by the College upon completion of this program.

Note

Students may obtain a suggested course sequence list from a Program Counselor or the Program Director.

For More Information

The Fire Protection Technology program is in the Accounting and Public Safety Department. For more information, call the Program Director – (704)342-6705, weekdays, 8 a.m.-4:30 p.m. A Program Counselor can be reached by calling (704)342-6229.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests are required for admission to particular courses.

- **Students entering this program should take the courses in bold print first.**

First Step to Enroll
Call the Welcome Center – (704)342-6719.

Major and Related Course Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIP	**3301**	**Fire Prevention Programs and Public Relations**	**2**	**2**	**0**	**3**
FIP	**3303**	**Fire Protection I**	**3**	**0**	**0**	**3**
FIP	3401	Plant Emergency Operations	3	2	0	4
*FIP	3404	Chemistry of Flammable Materials	3	2	0	4
*FIP	3405	Flame Propagation and Material Rating	2	4	0	4
FIP	3406	Arson Investigation I	3	2	0	4
*FIP	3408	Arson Investigation II	3	2	0	4
FIP	4304	Fire Protection Law	3	0	0	3
FIP	4500	Fire Service Instructional Methodology	5	0	0	5
*FIP	4403	Hydraulics for Fire Protection	3	2	0	4
*FIP	4404	Water Distribution Systems	3	2	0	4
FIP	4405	Sprinkler and Standpipe Systems	3	2	0	4
*FIP	4414	Inspection Principles and Building Codes	3	0	3	4
FIP	4423	Portable and Fixed Extinguishing Systems	3	2	0	4
FIP	4424	Automatic Alarm Systems	3	2	0	4
*FIP	4434	Chemical and Radiation Hazards	3	2	0	4
FIP	4444	Fire Fighting Strategy	3	2	0	4
FIP	**4454**	**Building Construction**	**3**	**2**	**0**	**4**
*FIP	4464	Hazardous Material Analysis and Emergency Planning	2	4	0	4
ARC	**3334**	**Architectural Drafting I (Basic)**	**1**	**0**	**6**	**3**
MGT	2314	Principles of Management	3	0	0	3
MGT	4330	Supervision	3	0	0	3
TECHNICAL ELECTIVES			8	0	0	8
						91

General Education Core Requirements:

***ENG**	**1504**	**English Composition I**	**5**	**0**	**0**	**5**
*ENG	3405	Technical English II+	4	0	0	4
SPH	**1300**	**Oral Communications**	**3**	**0**	**0**	**3**
***MAT**	**3325**	**General College Mathematics+**	**3**	**0**	**0**	**3**
*CHM	1500	Introductory Chemistry	4	2	0	5
EDP	**3310**	**Microcomputer Operations**	**2**	**2**	**0**	**3**
SPH	2310	Intercultural Communications	3	0	0	3
PSY	1500	Psychology of Adjustment	5	0	0	5
						31

Total Credit Hours 122

Technical Electives:

Choose at least 8 credit hours from the following:

*FIP	4510	Hydraulic Design of Sprinkler Systems	4	2	0	5
*FIP	4309	Incident Management Systems	3	0	0	3
FIP	4409	Fire Department Tactics and Strategy	3	2	0	4
FIP	3309	Leadership and Team Building	3	0	0	3
FIP	4509	Fire Department Management	5	0	0	5
HSA	3421	Stress and Crisis in Contemporary Society	4	0	0	4
HSE	4401	Environmental Regulations	4	0	0	4
HSE	4503	Environmental Management and Control	5	0	0	5
Additional courses may be chosen from the following prefixes: BUS, MGT, EDP,HSA, INS, PSC, and DFT			3	0	0	3

+ MAT 1504, 1505, or 1514 should be taken in lieu of MAT 3325, and ENG 1505 in lieu of ENG 3405 for students who may later transfer.

* Prerequisite or corequisite is required; check course description for details.

Foodservice Management (Chef Training) (T074)

Official Program Description registered with the NC Department of Community Colleges:

The Foodservice Management curriculum trains students at the supervisory or "middle management" level in foodservice with particular emphasis on institutional foodservice. Students completing the first year of this curriculum and desiring additional study in supervision and management may continue for the second year or exit after the fourth quarter with a diploma as a Foodservice Specialist.

In addition to having a sound foundation in the science of food preparation and service, students will develop an understanding of the basic science and principles of quantity food preparation, an appreciation of accuracy and the use of standards in production, an increased knowledge of the space and equipment requirements for quantity food production and service operations of various types, and some ability to evaluate the effectiveness of the operation of a foodservice department. Also, students will understand pricing and cost controls, principles of nutrition as applied to institutional menu planning, safe methods of work performance, and appreciation of sanitation and hygiene in a foodservice operation.

The career opportunities available to a graduate of the Foodservice Management curriculum are dietetic assistant, food science supervisor, foodservice manager, dietary technician, unit manager and chef-manager. Employment opportunities are available in hospitals, nursing homes, child care centers, college and university foodservice, school foodservice, industrial cafeterias, private clubs, airline foodservice, food processing manufacturers, foodservice contract companies and commercial restaurants.

Degree Awarded

The Associate in Applied Science Degree – Foodservice Management is awarded by the College upon completion of this program.

Note

In addition to tuition and textbooks, the estimated cost for tools and uniforms is $125.

For More Information

The Foodservice Management program is in the Hospitality Technology Department. For more information, call the Program Director – (704)342-6301, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6550 or 6059.

Admissions

- A High School Diploma is required.
- CPCC placement tests are required in English, mathematics and reading.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719 or the Program Director - (704)342-6301.

Major and Related Course Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FSO	**3504**	**Food Preparation I**	**2**	**0**	**9**	**5**
* FSO	3505	Food Preparation II	2	0	9	5
* FSO	3506	Food Preparation III	2	0	9	5
* FSO	4506	Food Preparation IV	2	0	9	5
FSO	**4414**	**Garde Manger I**	**2**	**0**	**6**	**4**
* FSO	4415	Garde Manger II	2	0	6	4
* FSO	4416	Garde Manger III	2	0	6	4
FSO	4303	Food Purchasing	3	0	0	3
FSO	4407	Baking I	2	0	6	4
* FSO	4408	Baking II	2	0	6	4
* FSO	4409	Baking III	2	0	6	4
* FSO	4419	Baking IV	2	0	6	4
FSO	3301	Nutrition	3	0	0	3
FSO	4200	Equipment Usage, Layout and Design	2	0	0	2
FSO	4304	Food & Labor Cost Controls	3	0	0	3
HRM	**3300**	**Introduction to Hotel Restaurant Mgmt.**	**3**	**0**	**0**	**3**
HRM	4400	Restaurant Service Management	2	0	6	4
FSO	4300	Sanitation	3	0	0	3
TAT	4307	History of Beverages	3	0	0	3
HRM	4302	Hotel/Restaurant Mgmt. Related Problems	3	0	0	3
BUS	3300	Human Relations	3	0	0	3
HED	1204	First Aid Responding to Emergencies	1	2	0	2
ACC	3500	Small Business Accounting	5	0	0	5
FSO	4208	Cooperative Education	0	0	20	2
						87

General Education Core Requirements:

*** ENG**	**1504**	**English Composition I**	**5**	**0**	**0**	**5**
* ENG	3405	Technical English II	4	0	0	4
SPH	2304	Public Speaking	3	0	0	3
SCI	3300	Principles of Science	3	0	0	3
* MAT	3325	General College Mathematics	3	0	0	3
EDP	3310	Microcomputer Operations	2	2	0	3
		Humanities Elective: Choose any course listed under General Education Goal V.	3	0	0	3
INT	3300	Introduction to International Business	3	0	0	3
ECO	2304	Economics I	3	0	0	3
						30

Total Credit Hours 117

* Prerequisite or corequisite is required; check course description for details.

General Office Technology (T033)

Official Program Description registered with the NC Department of Community Colleges:

The purposes of the General Office curriculum are to prepare the individual to enter clerical office occupations, provide an educational program for individuals wanting education for upgrading (moving from one position to another) or retraining (moving from present position to a clerical position) and to provide an opportunity for individuals wanting to fulfill professional or general interest needs. These purposes will be fulfilled through skill development in the areas of word processing, filing, and business machines. Through these skills and through development of personal competencies and qualities, an individual will be able to function effectively in office-related activities.

Degree Awarded

The Associate in Applied Science Degree – General Office Technology is awarded by the College upon completion of this program.

For More Information

The General Office Technology program is in the Computer and Office Information Systems Department. For more information, contact the Program Director – (704)342-6781, a Program Counselor – (704)342-6426 or 6229, or the Department office – (704)342-6549 weekdays, 9 a.m.-4 p.m.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests determine the placement in English (ENG) and mathematics (MAT) courses.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Major and Related Course Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SEC	**3303**	**Keyboarding**	**1**	**4**	**3**
* SEC	3405	Document Formatting I	3	2	4
* SEC	3406	Document Formatting II	3	2	4
SEC	3311	Receptionist Skills	3	0	3
SEC	3104	Electronic Calculators	0	2	1
SEC	**3302**	**Effective Word Techniques**	**3**	**0**	**3**
SEC	3305	Editing, Proofing, and Reference Skills	3	0	3
SEC	3320	Personal Projection	3	0	3
SEC	**4324**	**Information Processing Concepts**	**3**	**0**	**3**
* SEC	3305	Business Communications	3	0	3
SEC	4370	Records Management	3	0	3
* SEC	4407	Document Production	3	2	4
* SEC	4429	Word Processing I	3	2	4
* SEC	4430	Word Processing II	3	2	4
* SEC	4425	Machine Transcription	3	2	4
ACC	3600	General Accounting or			
ACC	1604	Principles of Accounting I	5	2	6
* EDP	3215	Microcomputer Software - Lotus 1-2-3	1	2	2
* EDP	3217	Microcomputer Software - DataBase	1	2	2
BUS	**3300**	**Human Relations I**	**3**	**0**	**3**

	ENG 3515	**Essentials of Grammar**	**5**	**0**	**5**
*	SEC 4517	General Office Procedures	5	0	5
*	SEC 4201	Cooperative Work Experience I	0	20	2
	Technical Elective				6
					80

General Education Core Requirements:

*	ENG 1504	English Composition I	5	0	5
*	ENG 3405	Technical English II	4	0	4
	SPH 1300	Oral Communications or			
	SPH 3300	Business and Professional Speech Communication	3	0	3
*	MAT 3325	General College Mathematics	3	0	3
	SCI 3300	Principles of Science	3	0	3
	EDP 3310	Microcomputer Operations	2	2	3
	Humanities Elective: Choose any course listed under General Education Goal V.		3	0	3
	International Awareness Elective: Choose any course listed under General Education Goal VI.		3	0	3
	ECO 2304	Economics I	3	0	3

Total Credit Hours 110

Technical Electives:

*	ACC 1605	Principles of Accounting II	5	2	6
	ADV 1200	Desk Top Publishing	1	2	6
	BUS 1500	Introduction to Business	5	0	5
	BUS 2304	Business Law I	3	0	3
*	BUS 2305	Business Law II	3	0	3
*	BUS 3305	Human Relations II	3	0	3
*	EDP 3316	Advanced Lotus	3	2	2
*	EDP 3318	Advanced dBASE	3	2	2
	FIN 3303	Personal Investing	3	0	3
	FIN 3314	Business Mathematics I	3	0	3
*	LEX 3320	Evidence	3	0	3
	MED 3304	Medical Terminology & Vocabulary I	3	0	3
	MGT 3331	Preparing Women as Managers	3	0	3
	MGT 4331	Administrative Office Management	3	0	3
	SEC 3301	Legal Terminology and Vocabulary	3	0	3
	SEC 3411	Notetaking	3	2	4
	SEC 4400	Typing Skill Building	3	2	4
*	SEC 4435	Word Processing for Windows	3	2	4

* Prerequisite or corequisite is required; check course description for details.

General Office Technology Certificates (T033-A, B)

The certificates listed below can be earned in the General Office Technology program (T033).

For More Information

The General Office Technology program is in the Computer and Office Information Systems Department. For more information, contact the Program Director – (704)342-6781, a Program Counselor – (704)342-6426 or 6229, or the Department office – (704)342-6549 weekdays, 9 a.m.-4 p.m.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
General Office Basic Certificate (T033-A)					
	FIN 3314	Business Mathematics I	3	0	3
	SEC 3305	Editing, Proofreading, and Reference Skills	3	0	3
	SEC 3311	Receptionist Skills	3	0	3
	SEC 3320	Personal Projection	3	0	3
	SEC 3303	Keyboarding	1	4	3
	EDP 3310	Microcomputer Operations	2	2	3
	SEC 3302	Effective Word Techniques	3	0	3
*	SEC 3104	Electronic Calculators	0	2	1
*	SEC 3405	Document Formatting I	3	2	4
	SEC 4324	Information Processing Concepts	3	0	3

Total Credit Hours 29

General Office Intermediate Certificate (T033-B)

This Certificate requires the completion of all Basic Certificate requirements in addition to the following:

	ENG 3515	Essentials of Grammar	5	0	5
*	SEC 3406	Document Formatting II	3	2	4
	EDP 3215	Microcomputer Software Lotus 1-2-3	1	2	2
	SEC 4429	Word Processing I	3	2	4
	BUS 3300	Human Relations I	3	0	3
	SEC 4430	Word Processing II	3	2	4
	SEC 4370	Records Management	3	0	3
	EDP 3217	Microcomputer Software dBase	1	2	2

Total Credit Hours 56

* Prerequisite or corequisite is required; check course description for details.

Graphic Arts (V022)

Official Program Description registered with the NC Department of Community Colleges:

This curriculum gives students experience with equipment and a working knowledge of methods used in the graphic arts industry. Ample opportunities are provided for them to develop skills in the operation of machines and equipment, and to become familiar with a wide range of graphic processes.

There are many distinct occupations in the graphic arts industry. Graduates will be able to set type by various methods, prepare copy and artwork, proofread, operate presses, understand the photomechanical process, operate bindery equipment, and perform a variety of other graphic arts skills.

Diploma Awarded

A Diploma in Graphic Arts is awarded by the College upon completion of this program.

For More Information

The Graphic Arts program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6794 or 6655, or the Department office (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
ENG 5500	Communication Skills+	5	0	5
HSA 5200	Human Relations	2	0	2
* MAT 3325	General College Mathematics	3	0	3
* PRN 4337	Color Reproduction I	2	2	3
* PRN 4401	Printing Applications III	2	4	4
PRN 5301	Printing Management	3	0	3
* PRN 5303	Printing Planning & Production	3	0	3
PRN 5310	Substrates and Ink	3	0	3
PRN 5314	Process Camera I	2	2	3
* PRN 5315	Process Camera II	2	2	3
PRN 5317	Desk Top Publishing I	2	2	3
* PRN 5319	Desk Top Publishing II	2	2	3
PRN 5365	Image Assembly I	2	2	3
PRN 5369	Introduction to Graphic Arts	3	0	3
* PRN 5371	Printing Applications I	2	2	3
PRN 5401	Copy Preparation Technology I	2	4	4
* PRN 5410	Flexography I	2	4	4
* PRN 5412	Printing Applications II	2	4	4
PRN 5424	Offset Press Operation I	2	4	4
* PRN 5435	Image Assembly II	2	4	4
	TECHNICAL ELECTIVE			4
Total Credit Hours				71

Technical Electives:

PRN 4204	Graphic Arts Cooperative Work Experience II	0	20	2
PRN 4311	Printing Sales	3	0	3
PRN 5207	Graphic Arts Cooperative Work Experience I	0	20	2
PRN 5313	Desk Top Publishing III	2	2	3
PRN 5316	Screen Printing I	2	2	3
* PRN 5320	Desk Top Publishing IV	2	2	3
PRN 5390	Individual Study	3	0	3
PRN 5403	Copy Preparation Technology II	2	4	4
* PRN 5425	Offset Press Operation II	2	4	4
* PRN 5411	Flexography II	2	4	4

* Prerequisite or corequisite is required; check course description for details.

\+ Students planning to continue work toward a degree in Graphic Arts should substitute ENG 1504, English Composition I, for ENG 5500.

Graphic Arts Certificates (V022–A, B, C, D, E, F)

Specialization Certificates

The certificates listed below can be earned in the Graphic Arts (V022) program.

For More Information

For more information, call the Program Director – (704)342-6794 or 6655, or the Technical Careers Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors may be reached by calling (704)342-6229 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Graphic Arts – Printing Certificate with a Specialization in Image Assembly (V022-A)

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ENG 5500	Communication Skills+	5	0	5
* MAT 3325	General College Mathematics	3	0	3
* PRN 4337	Color Reproduction I	2	2	3
PRN 5314	Process Camera I	2	2	3
PRN 5317	Desk Top Publishing I	2	2	3
PRN 5365	Image Assembly I	2	2	3
PRN 5369	Introduction to Graphic Arts	3	0	3
* PRN 5435	Image Assembly II	2	4	4
Total Credit Hours				27

* Prerequisite or corequisite is required; check course description for details.

\+ Students planning to continue work toward a degree in Graphic Arts should substitute ENG 1504, English Composition I, for ENG 5500.

Graphic Arts – Printing Certificate with a Specialization in Copy Preparation Technology (V022-B)

ENG 5500	Communication Skills+	5	0	5
* MAT 3325	General College Mathematics	3	0	3
PRN 5310	Substrates and Ink	3	0	3
PRN 5314	Process Camera I	2	2	3
PRN 5317	Desk Top Publishing I	2	2	3
* PRN 5319	Desk Top Publishing II	2	2	3
PRN 5369	Introduction to Graphic Arts	3	0	3
PRN 5401	Copy Preparation Technology I	2	4	4
* PRN 5403	Copy Preparation Technology II	2	4	4
Total Credit Hours				31

* Prerequisite or corequisite is required; check course description for details.

\+ Students planning to continue work toward a degree in Graphic Arts should substitute ENG 1504, English Composition I, for ENG 5500.

Graphic Arts – Printing Certificate with a Specialization in Small Commercial Printing (V022-C)

ENG 5500	Communication Skills+	5	0	5
* MAT 3325	General College Mathematics	3	0	3
PRN 5314	Process Camera I	2	2	3
PRN 5317	Desk Top Publishing I	2	2	3
PRN 5365	Image Assembly I	2	2	3
PRN 5369	Introduction to Graphic Arts	3	0	3
PRN 5401	Copy Preparation Technology I	2	4	4
PRN 5424	Offset Press Operation I	2	4	4
Total Credit Hours				28

\+ Students planning to continue work toward a degree in Graphic Arts should substitute ENG 1504, English Composition I, for ENG 5500.

Graphic Arts – Printing Certificate with a Specialization in Offset Press Operation (V022-D)

ENG 5500	Communication Skills+	5	0	5
* MAT 3325	General College Mathematics	3	0	3
PRN 5310	Substrates and Ink	3	0	3
PRN 5365	Image Assembly I	2	2	3
PRN 5369	Introduction to Graphic Arts	3	0	3
PRN 5424	Offset Press Operation I	2	2	4
* PRN 5425	Offset Press Operation II	2	4	4
Total Credit Hours				25

* Prerequisite or corequisite is required; check course description for details.
+ Students planning to continue work toward a degree in Graphic Arts should substitute ENG 1504, English Composition I, for ENG 5500.

Graphic Arts – Printing Certificate with a Specialization in Desk Top Publishing (V022-E)

*ENG 3405	Technical English II	4	0	4
ENG 5500	Communications Skills+	5	0	5
*MAT 3325	General College Mathematics	3	0	3
*PRN 5313	Desk Top Publishing III	2	2	3
PRN 5317	Desk Top Publishing I	2	2	3
*PRN 5319	Desk Top Publishing II	2	2	3
*PRN 5320	Desk Top Publishing IV	2	2	3
PRN 5369	Introduction to Graphic Arts	2	2	3
PRN 5401	Copy Preparation Technology I	2	4	4

Total Credit Hours 31

* Prerequisite or corequisite is required; check course description for details.
+ Students planning to continue work toward a degree in Graphic Arts should substitute ENG 1504, English Composition I, for ENG 5500.

Graphic Arts – Printing Certificate with a Specialization in Commercial Screen Printing (V022-F)

ENG 5500	Communications Skills+	5	0	5
*MAT 3325	General College Mathematics	3	0	3
PRN 5310	Substrates and Ink	3	0	3
PRN 5314	Process Camera I	2	2	3
PRN 5316	Screen Printing I	2	2	3
PRN 5317	Desk Top Publishing I	2	2	3
PRN 5369	Introduction to Graphic Arts	3	0	3
PRN 5401	Copy Preparation Technology I	2	4	4

Total Credit Hours 27

* Prerequisite or corequisite is required; check course description for details.
+ Students planning to continue work toward a degree in Graphic Arts should substitute ENG 1504, English Composition I, for ENG 5500.

Graphic Arts – Printing Management (T026)

Official Program Description registered with the NC Department of Community Colleges:

The Graphic Arts – Printing Management curriculum prepares students for employment as trainees or assistants to management personnel in printing and related occupations in the graphic arts. This program is designed to provide a broad background of knowledge and a variety of graphic skills leading toward a management position after several years of on-the-job experience in this industry.

Instruction will include classroom theory and hands-on experience with composing equipment, graphic camera work, layout and copy preparation, bindery operations, production presswork and customer service experience.

Degree Awarded

The Associate in Applied Science Degree – Graphic Arts – Printing Management is awarded by the College upon completion of this program.

For More Information

The Graphic Arts – Printing Management program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6794 or 6655, or the Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

• A High School Diploma or equivalent is required.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
BUS 2304	Business Law I	3	0	3
MGT 3303	Small Business Management	3	0	3
MGT 4330	Supervision	3	0	3
PRN 4311	Printing Sales	3	0	3
PHY 5304	Applied Physics	2	2	3
*PRN 4337	Color Reproduction I	2	2	3
*PRN 4401	Printing Applications III	2	4	4
PRN 5301	Printing Management	3	0	3
PRN 5303	Printing Planning and Production	3	0	3
PRN 5310	Substrates and Ink	3	0	3
PRN 5314	Process Camera I	2	2	3
*PRN 5315	Process Camera II	2	2	3
PRN 5316	Screen Printing I	2	2	3
*PRN 5319	Desk Top Publishing II	2	2	3
PRN 5365	Image Assembly I	2	2	3
PRN 5369	Introduction to Graphic Arts	3	0	3
*PRN 5371	Printing Applications I	2	3	3
PRN 5401	Copy Preparation Technology I	2	4	4
*PRN 5409	Color Reproduction II	2	4	4
*PRN 5410	Flexography I	2	4	4
*PRN 5412	Printing Applications II	2	4	4
*PRN 5424	Offset Press Operation I	2	4	4
*PRN 5435	Image Assembly II	2	4	4
TECHNICAL ELECTIVE				6
				82
General Education Core Requirements:				
*ENG 1504	English Composition I	5	0	5
*ENG 3405	Technical English II+	4	0	4
SPH 1300	Oral Communications	3	0	3
*MAT 3325	General College Mathematics+	3	0	3
Science and Technology Elective: Choose any course listed under General Education Goal III, Area I.				3
PRN 5317	Desk Top Publishing I	2	2	3
Humanities Elective: Choose any course listed under General Education Goal V				3
International Awareness Elective: Choose any course listed under General Education Goal VI.				3
Self and Society Elective: Choose any course under General Education Goal VII.				3
				30

Total Credit Hours 112

Technical Electives:

With the approval of an advisor, students may select six hours from the following:

*PRN 4204	Graphic Arts Cooperative Work Experience II	0	20	2
*PRN 5207	Graphic Arts Cooperative Work Experience I	0	20	2

* PRN 5313	Desk Top Publishing III	2	2	3
* PRN 5320	Desk Top Publishing IV	2	2	3
* PRN 5390	Individual Study	3	0	3
* PRN 5403	Copy Preparation Technology II	2	4	4
* PRN 5425	Offset Press Operation II	2	4	4
* PRN 5411	Flexography II	2	4	4

+ MAT 1504, 1505 or 1514 should be taken in lieu of MAT 3325, and ENG 1505 in lieu of ENG 3405 for students who may later transfer.

* Prerequisite or corequisite is required; check course description for details.

Health Information Technology (T053)

Official Program Description registered with the NC Department of Community Colleges:

The Health Information Technology curriculum prepares the individual with the knowledge and skills to process, maintain, compile and report health information.

Technical knowledge and skills for the Health Information Technician include those necessary to assemble, analyze, abstract and maintain medical records; supervise health information/medical record department functions, classify/code and index diagnoses and procedures for reimbursement, statistical and administrative purposes; provide information for cost control, assurance of quality health care, marketing and planning for health services and risk management; prepare reports for health-related organizations such as federal, state and regulatory agencies and those responsible for health care reimbursement; complete research studies such as those done to review the quality of health care; and maintain the confidentiality and security of patient information.

Graduates may find employment in hospitals, rehabilitation facilities, long term care facilities, health insurance organizations, out-patient clinics, mental health facilities and home health organizations.

Degree Awarded

The Associate in Applied Science Degree, Health Information Technology, is awarded by the College upon completion of this program.

A graduate of an accredited associate degree program is eligible to apply to write the national qualifying examination for certification as an Accredited Record Technician (ART).

Admission

- Courses in the following areas would be helpful to students: computer science, biology and health occupations.
- A High School Diploma or equivalent is required for program admission.
- Placement testing in English, mathematics and reading is required to qualify for ENG 1504 and MAT 1504. Scores on placement tests may require students to take specified Advancement Studies courses. If required, completion of these courses is necessary prior to program admission. Students may, with approval of the Program Director, take no more than two preadmission courses during their first quarter of program admission. During the admissions process, students are encouraged to obtain a course sequence list from the Program Counselor. This curriculum may be completed on a part-time or full-time basis.
- In addition to tuition and textbooks, there are program-related costs: coding classes require the purchase of current versions of ICD-9-CM and CPT-4 code books; directed practice requires a physical examination and updated immunizations; directed practice courses require travel to health care facilities that may be as much as 40 miles from Charlotte; opportunities for one or more directed practice rotations that require overnight travel are offered to students, but are not required. While every effort is made to accommodate the needs of students who do not have access to an automobile, the program cannot guarantee that directed practice sites will be located on bus lines.
- Progression in this program is dependent upon a score of C or better in all courses with MRT, BIO and MED prefixes.
- **Students entering this program should take the courses in bold print first if at all possible.**

For More Information

The Health Information Technology program is in the Health Technologies Department. For more information, call the Program Director at (704)342-6452, weekdays, 8 a.m.-5 p.m. Program counselors can be reached by calling (704)342-6500 or 6468.

First Step to Enroll

Call the Health Technologies Information Specialist at (704)342-6193.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
BIO 1505	Human Anatomy and Physiology II	3	4	5
BIO 1503	Microbiology	3	4	5
MED 3304	**Medical Terminology and Vocabulary I**	**3**	**0**	**3**
* MED 3305	Medical Terminology II	3	0	3
* MED 3306	Medical Terminology III	3	0	3
SEC 3312	Introduction to Word Processing	2	2	3
MGT 4329	Supervision for Healthcare Organization	3	0	3
* MET 3400	Medical Record Transcription	2	4	4
MRT 3201	**Orientation to Health Information Technology**	**2**	**0**	**2**
*** MRT 3300**	**Medical Record Content and Maintenance**	**3**	**0**	**3**
* MRT 4312	Legal Aspects of Health Information Technology	3	0	3
* MRT 3424	Principles of Disease	4	0	4
* MRT 4315	Medical Record Standards and Regulations	3	0	3
* MRT 3302	Basic ICD-9-CM Coding	2	2	3
* MRT 4408	Intermediate Coding	4	0	4
* MRT 3303	Advanced Coding Concepts	1	4	3
* MRT 3315	Computers in Health Care	2	2	3
* MRT 3301	Quality Assurance in Health Care Facilities	2	2	3
* MRT 3414	Statistical Applications for Health Information Technology	4	0	4
* MRT 3204	Directed Practice I	0	6	2
* MRT 4406	Directed Practice II	0	12	4
* MRT 4407	Directed Practice III	0	12	4
* MRT 4405	Health Information Technology Issues	4	0	4
Electives**				2
				80
General Education Core Requirements:				
*** ENG 1504**	**English Composition I**	**5**	**0**	**5**
* ENG 1505	English Composition II	5	0	5
SPH 1300	Oral Communication or			
SPH 1301	Persuasive Speaking or			
SPH 2304	Public Speaking	3	0	3

*	MAT 1504	College Algebra I	5	0	5
	BIO 1504	**Human Anatomy and Physiology I**	**3**	**4**	**5**
	EDP 3310	Microcomputer Applications	2	2	3
	SPH 2310	Intercultural Communications	3	0	3
	PSY 2504	General Psychology	5	0	5
					34

Total Credit Hours 114

* Prerequisite or corequisite is required; check course description for details.

** A total of two elective courses is required with a minimum of two credit hours.

Horticulture (V021)

Official Program Description registered with the NC Department of Community Colleges:

Students in the Horticulture curriculum are trained in the areas of vegetable, flower, fruit, and ornamental plant production. Subject matter includes soil fertility and its modification, chemicals and their use, varieties of plants, bookkeeping, marketing, plant propagation, greenhouses and their construction, greenhouse management and all phases of the production of vegetables, flowers and fruit, including bedding plants, potted plants and nursery stock.

Upon completion of this curriculum, students should be able to set up and operate their own specialized business, as well as manage and operate specialized vegetable, flower, fruit, or nursery enterprises for others.

This program emphasizes practical "hands-on" training.

Diploma Awarded

A Diploma in Horticulture is awarded by the College upon completion of this program.

For More Information

The Horticulture program is in the Engineering and Advanced Technology Department. For more information, call the Program Director – (704)342-6296, weekdays, 8 a.m.-5 p.m. The Program Counselor can be reached at- (704)342-6881.

Admissions

- A High School Diploma or equivalent (available through CPCC) is required.
- CPCC placement tests are required in English and mathematics. Advancement studies (9000 series) mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
	BIO 1501	**General Botany**	**3**	**4**	**5**
*	ENG 1504	English Composition I	5	0	5
	FIN 3314	Business Mathematics I	3	0	3
	HED 1204	First Aid: Responding to Emergencies	1	2	2
*	HOR 3205	Cooperative Work Experience	0	20	2
	HOR 3302	Landscape Graphics and Measurements	2	2	3
	HOR 3400	**Landscape Plants I - Woody**	**3**	**2**	**4**
	HOR 3401	Plant Propagation I	2	4	4
	HOR 3403	Nursery Technology	2	4	4
	HOR 3404	**Landscape Plants II - Woody and Herbaceous**	**3**	**2**	**4**
	HOR 3405	Grounds Maintenance II	2	4	4
	HOR 3408	**Introductory Horticulture**	**3**	**2**	**4**
	HOR 3410	Turf Management I	2	4	4
	HOR 3504	**Grounds Maintenance I**	**3**	**4**	**5**
*	HOR 3505	Landscape Gardening	3	4	5
	PME 5211	Small Engine Repair I	1	3	2
	SPH 1300	Oral Communications	3	0	3
	Related Elective		5	0	5
	TECHNICAL ELECTIVES		4	0	4

Total Hours Credit 72

Technical Electives:

With Advisor/Counselor approval, select a minimum of four credit hours from the following:

	HOR 3210	Floral Design	1	2	2
*	HOR 3304	Computer-Aided Landscape Graphics	1	6	3
	HOR 3312	Indoor Plants	2	2	3
	HOR 3460	Applied Integrated Pest Management	2	4	4
*	HOR 4203	Advanced Floral Design	1	2	2
*	HOR 4301	Horticulture Management and Sales	3	0	3
*	HOR 4305	Landscape Plants III	2	2	3
	HOR 4400	Arboriculture	2	4	4
*	HOR 4404	Plant Propagation II	2	4	4
*	HOR 4405	Turf Management II	2	4	4
	HOR 4411	Greenhouse Horticulture	2	4	4

Related Electives:

With Advisor/Counselor approval, select a minimum of five credit hours from the following:

ACC 3500	Small Business Accounting	5	0	5
BIO 1500	General Biology	3	4	5
BIO 1300	Genetics	3	0	3
BIO 2500	Introduction to Entomology	3	4	5
BUS 1500	Introduction to Business	5	0	5
CHM 1500	Introduction to Chemistry	3	4	5
EDP 3310	Microcomputer Operations	2	2	3
PME 5214	Small Engine Overhaul	1	3	2

* Prerequisite or corequisite is required; check course description for details.

Horticulture Technology (T009)

Official Program Description registered with the NC Department of Community Colleges:

The Horticulture Technology curriculum encompasses the study and practical application of varied subjects in the field of horticulture. The curriculum consists of identifying and selecting plant materials, propagating, planting and growing plants; designing basic landscapes and planting materials at the appropriate places and in the correct manner; properly maintaining plant materials; and managing the nursery, greenhouse and garden center. In addition, skills are developed in designing and building planters, walks, patios, fences and other landscape features. The curriculum is designed to provide students with the knowledge, skills and attitudes that are necessary for independent, creative thinking essential to success in this field.

Various types of employers hire the graduates of this curriculum. Examples are nurseries, greenhouse operations, garden

centers, landscape contractors, landscape maintenance companies, and municipal/governmental agencies.

Major jobs for which students are prepared include entry-level jobs such as garden center worker, greenhouse worker, groundskeeper, landscape construction worker, landscape worker, lawn service worker, nursery worker, plant propagator, salesperson of horticultural and nursery products, and tree pruner; advanced-level jobs such as greenhouse superintendent, horticultural specialty grower – field, horticultural specialty grower – inside, landscape gardener, and nursery manager.

Degree Awarded

The Associate in Applied Science Degree – Horticulture Technology is awarded by the College upon completion of this program.

For More Information

The Horticulture Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Director – (704)342-6296, weekdays, 8 a.m.-5 p.m. The Program Counselor can be reached at (704)342-6881.

Admissions

- A High School Diploma or equivalent (available through CPCC) is required.
- CPCC placement tests are required in English and mathematics. Advancement studies (9000 series) mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Major and Related Course Requirements:

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC 3500	Small Business Accounting	5	0	5
BIO 2500	Introduction to Entomology	3	4	5
*CHM 1500	Introduction to Chemistry	3	4	5
*HOR 3205	Cooperative Work Experience	0	20	2
HOR 3302	Landscape Graphics & Measurements	2	2	3
HOR 3312	Indoor Plants	2	2	3
HOR 3400	**Landscape Plants I - Woody**	**3**	**2**	**4**
HOR 3401	Plant Propagation I	2	4	4
HOR 3403	Nursery Technology	2	4	4
HOR 3404	**Landscape Plants II - Woody and Herbaceous**	**3**	**2**	**4**
HOR 3405	Grounds Maintenance II	2	4	4
HOR 3408	**Introductory Horticulture**	**3**	**2**	**4**
HOR 3410	**Turf Management I**	**2**	**4**	**4**
HOR 3504	**Grounds Maintenance I**	**3**	**4**	**5**
*HOR 3505	Landscape Gardening	3	4	5
*HOR 4301	Horticulture Management and Sales	3	0	3
HOR 4400	Arboriculture	2	4	4
*HOR 4404	Plant Propagation II	2	4	4
HOR 4411	Greenhouse Horticulture	2	4	4
PME 5211	Small Engine Repair I	1	3	2
Elective +		3	0	3
TECHNICAL ELECTIVES		3	0	3
				84

General Education Core Requirements:

*ENG 1504	English Composition I	5	0	5
*ENG 3405	Technical English II	4	0	4
SPH 1300	Oral Communications	3	0	3
FIN 3314	**Business Mathematics I**	**3**	**0**	**3**
BIO 1501	**General Botany**	**3**	**4**	**5**
EDP 3310	Microcomputer Operations	2	2	3
	Humanities Elective: Choose any course listed under General Education Goal V.	3	0	3
	International Awareness Elective: Choose any course listed under General Education Goal VI.	3	0	3
	Self and Society Elective: Choose any course listed under General Education Goal VII.	3	0	3
				32

Total Hours Credit 116

Technical Electives:

With Advisor/Counselor approval, select a minimum of three credit hours from the following:

HOR 3210	Floral Design	1	2	2
*HOR 3304	Computer-Aided Landscape Graphics	1	6	3
HOR 3460	Applied Integrated Pest Management	2	4	4
*HOR 4203	Advanced Floral Design	1	2	2
*HOR 4305	Landscape Plants III	2	2	3
*HOR 4405	Turf Management II	2	4	4
MGT 3303	Small Business Management	3	0	3
MGT 4330	Supervision	3	0	3

* Prerequisite or corequisite is required; check course description for details.

\+ Elective may be any technical or college transfer course.

Hotel/Restaurant Management (T025)

Official Program Description registered with the NC Department of Community Colleges:

The Hotel and Restaurant Management curriculum prepares students to work as supervisory and management personnel in hotels, restaurants and clubs. Areas of study include front office management, accounting, sales promotion, food and beverage control, personnel management, food preparation and service. An internship program in the field may be offered the student to acquire industry experience under the direction of a qualified manager and a college supervisor.

The graduate has an opportunity for employment with hotels, clubs, restaurants, airlines, colleges, schools, convalescent homes, government services and hospitals.

Degree Awarded

The Associate in Applied Science Degree – Hotel/Restaurant Management is awarded by the College upon completion of this program.

NOTE: In addition to tuition and textbooks, the estimated cost of tools and uniforms for this program is $125.

For More Information

The Hotel/Restaurant Management program is in the Hospitality Education Department. For more information, call the Program Director – (704)342-6669, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6550 or 6059.

Admissions

- A High School Diploma or equivalent is required.
- CPCC placement tests are required in English, mathematics and reading.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Related Course Requirements:						
HRM	**3300**	**Introduction to Hotel/ Restaurant Management**	**3**	**0**	**0**	**3**
***HRM**	**4400**	**Restaurant Service Management**	**2**	**0**	**6**	**4**
HRM	**3301**	**Hospitality Law**	**3**	**0**	**0**	**3**
*HRM	4200	Topics in Hotel/Restaurant Management	2	0	0	2
HRM	4300	Hotel/Restaurant Marketing	3	0	0	3
HRM	4301	Housekeeping Procedures	3	0	0	3
HRM	4302	Hotel/Restaurant Management Related Problems	3	0	0	3
FSO	3504	Food Preparation I	2	0	9	5
FSO	4414	Garde Manger I	2	0	6	4
FSO	4304	Food & Labor Cost Controls	3	0	0	3
HRM	3104	Speaker Seminar I	1	0	0	1
FSO	4300	Sanitation	3	0	0	3
TAT	4307	History of Beverages	3	0	0	3
FSO	4407	Baking I	2	0	6	4
ACC	3600	General Accounting	5	2	0	6
FSO	4200	Equipment Usage, Layout & Design	2	0	0	2
TAT	3200	Travel & Tourism Etiquette	2	0	0	2
FSO	3301	Nutrition	3	0	0	3
EDP	1500	Computer Literacy	5	0	0	5
FIP	3200	Fire Protection for Hospitality Education	2	0	0	2
SEC	3303	Keyboarding	1	4	0	3
MGT	4330	Supervision	3	0	0	3
HPE		Health, Physical Education & Recreation Elective (Choose one course from HPE section)	0	3	0	1
HED	1204	First Aid Responding to Emergencies	1	2	0	2
FSO	4303	Food Purchasing	3	0	0	3
BUS	3300	Human Relations	3	0	0	3
*HRM	4304	Practicum I	2	0	10	3
*HRM	4305	Practicum II	2	0	10	3
						85
General Education Core Requirements:						
***ENG**	**1504**	**English Composition I**	**5**	**0**	**0**	**5**
*ENG	3405	Technical English II	4	0	0	4
SPH	2304	Public Speaking	3	0	0	3
***MAT**	**3325**	**General College Mathematics**	**3**	**0**	**0**	**3**
SCI	3300	Principles of Science	3	0	0	3
EDP	3310	Microcomputer Operations	2	2	0	3
Humanities Elective: Choose any course under General Education Goal V.			3	0	0	3
INT	3300	Introduction to International Business	3	0	0	3
ECO	2304	Economics I	3	0	0	3
						30

Total Credit Hours 115

* Prerequisite or corequisite is required; check course description for details.

Human Services Technology (T-136)

Official Program Description registered with the NC Department of Community Colleges:

The Human Services Technology curriculum is designed to prepare graduates for entry into a variety of positions in institutions and agencies which provide social, community and education services to people. Along with the human services courses, the curriculum provides for electives that allow the student to specialize in a specific work interest area. During the last five quarters, emphasis is placed on the development of relevant knowledge and skills pertinent to the chosen area. Internships in one or more areas of human services are included in the final phases of the curriculum.

Graduates will find employment with child care agencies, family services agencies, hospitals, mental health centers, public welfare departments, schools and rehabilitation agencies.

Individuals desiring a career in human services technology should, if possible, take biology, psychology and sociology courses prior to entering the program.

Degree Awarded

The Associate in Applied Science Degree - Human Services Technology with specialization in one of three areas (Family Intervention, Chemical Dependency or Developmental Disabilities) is awarded by the College upon completion of this program.

Program Accreditation

Human Services Technology courses have been approved by the National Board for Certified Counselors (NBCC) for Professional Counselor (NCC) renewal credit. Human Services Technology courses may be used in applying for certification by the North Carolina Substance Abuse Board.

Note

Internships in a variety of community agencies enable students to gain specialized experience to parallel their classroom work. The duration of the internship is fall through spring quarters, second year.

A suggested course sequence list is available from the Program Counselor or the Program Director. Students interested in transferring to a senior institution should enroll in 1000- and 2000-level mathematics and English courses noted in the list of courses. Students should also consult with a faculty Advisor or Program Counselor regarding the transferability of this program to senior institutions.

For More Information

The Human Services Technology program is in the Human Services Department. For more information, call the Program Director (704)342-6695, weekdays, 7:30 a.m. - 4:30 p.m. The Program Counselor can be reached by calling (704)342-6392.

Admissions

- A High School Diploma or equivalent is required.
- After completing placement tests, students will then see the Program Counselor who will advise them before they see the Program Director. An interview with the Program Director is required for entry into the program.

First Step to Enroll
Call the Welcome Center - (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Related Course Requirements:					
HSA 3501	Introduction to HSA	5	0	0	5
HSA 4505	Helping Relationship: Theory	5	0	0	5
*HSA 3600	Community Organization and CaseWork Preparation	3	0	9	6
*HSA 3604	Helping Relationship: Technique	3	0	9	6
HSA 3421	Stress and Crisis in Contemporary Society	4	0	0	4
*HSA 4508	Senior Internship	1	0	12	5
*HSA 3340	Client Group Dynamics	3	0	0	3
*HSA 3341	Interpersonal Relationships II	3	0	0	3
HSA 3300	Introduction to Chemical Dependency	3	0	0	3
HSA 3311	Introduction to Developmental Disabilities I	3	0	0	3
MED 3304	Medical Terminology I	3	0	0	3
HED 1204	First Aid Responding to Emergencies	1	2	0	2
and					
Family Intervention:					
HSA 4300	Chemical Dependency and the Family	3	0	0	3
HSA 4511	Introduction to Social Welfare	5	0	0	5
ECA 3360	Understanding Adolescence	3	0	0	3
ECA 4310	Adult-Child Relations	3	0	0	3
*HSA 3414	Helping Relationship: Advanced Technique	3	0	3	4
or					
Chemical Dependency:					
HSA 3301	Assessment, Diagnosis, & Treatment of Chemical Dependency	3	0	0	3
HSA 3302	Pharmacology of Chemical Dependency	3	0	0	3
HSA 4300	Chemical Dependency and the Family	3	0	0	3
HSA 4301	Chemical Dependency and Diverse Populations	3	0	0	3
HSA 4302	Strategies for Recovery from Chemical Dependency	3	0	0	3
*HSA 3414	Helping Relationship: Advanced Technique	3	0	3	4
or					
Developmental Disabilities:					
HSA 3312	Introduction to Developmental Disabilities II	3	0	0	3
HSA 3313	Health Issues in Developmental Disabilities I	3	0	0	3
HSA 3314	Health Issues in Developmental Disabilities II	3	0	0	3
HSA 4311	Teaching Persons with Developmental Disabilities I	3	0	0	3
HSA 4312	Teaching Persons with Developmental Disabilities II	3	0	0	3
HSA 4411	Interdisciplinary Team Process	3	0	3	4

Related Course Requirements:					
PSY 2504	General Psychology	5	0	0	5
SOC 1500	Sociology of the Family	5	0	0	5
*PSY 2514	Abnormal Psychology	5	0	0	5
General Education Core Requirements:					
*ENG 1504	English Composition I	5	0	0	5
*ENG 1505	English Composition II	5	0	0	5
SPH 1300	Oral Communication	3	0	0	3
*MAT 3325	General College Mathematics	3	0	0	3
BIO 3500	Basic Health Science	4	2	0	5
EDP 3310	Microcomputer Operations	2	2	0	3
SPH 2310	Intercultural Communications	3	0	0	3
HSA 3502	Interpersonal Relationships I	5	0	0	5
Elective		3	0	0	3

Total Credit Hours.....116-117

* Prerequisite or corequisite is required; check course description for details.

Human Services Technology Certificates(T-136 - A, B, C)

Specialization Certificates

The certificates listed below can be earned in the Human Services Technology (T-136) program and can be applied toward the Human Services Technology Degree.

For More Information

Call the Program Director (704)342-6695, weekdays 7:30 a.m. to 4:30 p.m. The Counselor for this program can be reached by calling (704)342-6392.

First Step to Enroll
Call the Welcome Center (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Human Services Technology Certificate with a Specialization in Community Leadership (T136-A)					
HSA 3502	Interpersonal Relationships I	5	0	0	5
HSA 3501	Introduction to Human Services	5	0	0	5
HSA 3341	Interpersonal Relationships II	3	0	0	3
HSA 3340	Client Group Dynamics **	3	0	0	3

Total Credit Hours.....16

** Requires group planning and implementing community service project following completion of courses.

Human Services Technology Certificate with a Specialization in Developmental Disabilities (T136-B)					
HSA 3311	Introduction to Developmental Disabilities I	3	0	0	3
HSA 3312	Introduction to Developmental Disabilities II	3	0	0	3
HSA 3313	Health Issues in Developmental Disabilities I	3	0	0	3
HSA 3314	Health Issues in Developmental Disabilities II	3	0	0	3
HSA 4311	Teaching Persons With Developmental Disabilities I	3	0	0	3
HSA 4312	Teaching Persons With Developmental Disabilities II	3	0	0	3
HSA 4411	Interdisciplinary Team Process	3	0	0	4

Total Credit Hours.....22

Human Services Technology Certificate with a Specialization in Chemical Dependency (T136-C)

HSA 3300	Introduction to Chemical Dependency	3	0	0	3
HSA 3301	Assessment, Diagnosis and Treatment of Chemical Dependency	3	0	0	3
HSA 3302	Pharmacology of Chemical Dependency	3	0	0	3
HSA 4300	Chemical Dependency and the Family	3	0	0	3
HSA 4301	Chemical Dependency and Diverse Populations	3	0	0	3
HSA 4302	Strategies for Recovery from Chemical Dependency	3	0	0	3

Total Credit Hours 18

Industrial Management Technology (T049)

Official Program Description registered with the N C Department of Community Colleges:

The Industrial Management Technology curriculum is designed to provide an individual with the ability to function effectively in supervisory and middle-management positions in industry. This program emphasizes study and application in areas such as business and industrial management, production methods and schedules, inventory control, work analysis, motivation techniques, and human relations.

The curriculum is designed to prepare graduates to enter supervisory or middle-management positions, to provide an educational program for upgrading or retraining, and to provide an opportunity for individuals wanting to fulfill professional or general interests.

Degree Awarded

The Associate in Applied Science Degree – Industrial Management is awarded by the College upon completion of this program.

For More Information

The Industrial Management Technology program is in the Business Administration Department. For more information, call the Program Director –(704) 342-6238 to talk to the Program Director or 342-6646 to reach the departmental office.

Admissions

- A High School Diploma or equivalent is required.
- In order to be placed in English (ENG) and math (MAT) courses, students must take computerized placement tests in reading, English and math.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible**

First Step to Enroll

Call the Welcome Center – (704) 342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
BUS 1500	**Introduction to Business**	**5**	**0**	**5**
BUS 2304	Business Law I	3	0	3
*BUS 2305	Business Law II	3	0	3
BUS 3300	Human Relations I	3	3	3
*BUS 3304	Business Statistics I	3	0	3
MGT 2314	**Principles of Management**	**3**	**0**	**3**
MGT 4430	Supervision	3	0	3
*MGT 4333	Introduction to Industrial Management	3	0	3
*MGT 4335	Production Planning and Control	3	0	3
HSE 3301	Safety Engineering	3	0	3
MGT 4339	Inventory Management	3	0	3
MGT 4336	Essentials of Total Quality Management	3	0	3
MGT 4322	Introduction to Purchasing	3	0	3
ACC 1604	Principles of Accounting I	5	2	6
*ACC 1605	Principles of Accounting II	5	2	6
*ECO 2305	Economics II	3	0	3
Technical Electives				12
				68

General Education Core Requirements:

*ENG 1504	English Composition I	5	0	5
*ENG 3405	Technical English II	4	0	4
SPH 1300	**Oral Communications or**			
SPH 1301	**Persuasive Speaking**	**3**	**0**	**3**
*MAT 1504	College Algebra or			
MAT 3504	Technical Mathematics	5	0	5
*EDP 2525	Introduction to Business Computing	4	2	5
SCI 3300	**Principles of Science**	**3**	**0**	**3**
Humanities Elective: Choose any course listed under General Education Goal V.		3	0	3
INT 3300	Introduction to International Business	3	0	3
ECO 2304	**Economics I**	**3**	**0**	**3**
				34
Electives		6	0	6

Total Credit Hours: 108

Technical Electives:

Students wishing to concentrate in **Materials Management** must choose the following technical electives:

MGT 4338	Labor Management Relations	3	0	3
TRN 3300	Transportation	3	0	3
TRN 4356	Introduction to Logistics	3	0	3
TRN 4358	Warehouse Management	3	0	3

Students wishing to concentrate in **Safety Management** must choose the following technical electives:

HSE 3311	Practical Electrical Safety	3	0	3
HSE 3401	Occupational Safety	4	0	4
HSE 4500	Environmental Liability	5	0	5

* Prerequisite or corequisite is required; check course description for details.

Insurance (T128)

Official Program Description registered with the NC Department of Community Colleges:

The Insurance curriculum is designed to prepare an individual for entry into the insurance field. Objectives of this curriculum are to provide the individual with knowledge and skills in the principles of life and health insurance, social insurance, property and liability insurance, governmental influences on the insurance industry, governmental influences of the insurance industry on the economy, and organization and management in business operations.

Employment opportunities are available in areas such as insurance sales agent, claims adjuster, special agent, claims examiner, and rate clerk.

Degree Awarded

The Associate in Applied Science Degree – Insurance is awarded by the College upon completion of this degree.

Note

Courses completed with a grade of C or better while earning either of the Certificates in Insurance may be applied towards requirements for this degree.

Students should be aware that many of these courses in Insurance do not run on the regular 11 week quarter schedule used by most of the College.

Students interested in transferring to a senior institution should enroll in the 1000 and 2000 level mathematics and English courses noted in the footnotes that follow. Students should also consult with a faculty Advisor or Program Counselor regarding the transferability of this program to senior institutions.

For More Information

The Insurance programs are a part of the Institute of Banking, Insurance and Real Estate and are in the Accounting and Public Safety Department. For more information, call the Program Director (704) 342-6420, the Institute of Banking, Insurance and Real Estate office (704) 342-6692, or the Department office – (704) 342-6026, weekdays, 8 a.m. - 4:30 p. m. Program Counselors can be reached by calling (704) 342-6059 or 6229.

Admissions

- A High School Diploma or equivalent is required.
- CPCC placement teste are required in English, mathematics, and reading. A counseling appointment will follow and is required for admission to the program.
- **Students entering this program should take the courses in bold print first if at all possible.**
- Students are admitted into the Insurance AA Degree program each quarter.

First Step to Enroll

Call the Welcome Center – (704) 342-6719.

Major and Related Course Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CR/ /QTR
	ACC 3500	Small Business Accounting	5	0	5
	BUS 2304	Business Law I	3	0	3
*	EDP 3324	Advanced Microcomputer Operations	1	4	3
	HED 1204	Standard First Aid	1	2	2
	INS 3340	**Principles of Risk and Insurance**	**1**	**4**	**3**
	INS 3341	Personal Property and Casualty Insurance	2	2	3
	INS 4201	Part 1 -Life and Health Insurance-LOMA	2	0	2
*	INS 4202	Part 2 - Life and Health Company Operations-LOMA	2	0	2
*	INS 4203	Part 3 - Legal Aspects of Life and Health Insurance -LOMA	2	0	2
	INS 4280	NASD Series 6 and 63 Review	2	0	2
	INS 4294	General Insurance Part I - Introduction	2	0	2
*	INS 4297	General Insurance Part IV - Adjusters	2	0	2
*	INS 4298	General Insurance Part V -Medicare Supplement / Long Term Care	2	0	2
	INS 4315	Property and Liability Insurance (HS 315)	3	0	3
	INS 4320	Fundamentals of Financial Planning (HS 320)	3	0	3
	INS 4321	Income Taxation (HS 321)	3	0	3
	INS 4323	Individual Life and Health Insurance (HS 323)	3	0	3
	INS 4324	Life Insurance Law (HS 324)	3	0	3
*	INS 4354	Professional Ethics	2	2	3
*	INS 4395	General Insurance-Part II-Life and Health	3	0	3
*	INS 4396	General Insurance-Part III-Property and Casualty	3	0	3
	SEC 3301	Legal Terminology and Vocabulary	3	0	3
	SEC 3303	**Keyboarding**	**1**	**4**	**3**
		TECHNICAL ELECTIVES	15	0	15
		Related Electives	11	0	11
					89

General Education Core Requirements:

*	**ENG 1504**	**English Composition**	**5**	**0**	**5**
*	ENG 3405	Technical English II or	4	0	4
*	ENG 1505	English Composition II+			
	SPH 3300	Business and Professional Speech Communication	3	0	3
	FIN 3314	**Business Mathematics I**	**3**	**0**	**3**
		Science and Technology Elective: Choose any laboratory science course listed under General Education Goal III Area I (Except SCI 3300).	3	0	3
	EDP 3310	Microcomputer Operations	2	2	3
		Humanities Elective: Choose any course listed under General Education Goal V.	3	0	3
		International Awareness Elective: Choose any course listed under General Education Goal VI.	3	0	3
	ECO 2304	Economics I	3	0	3
					30

Total Credit Hours 119

Technical Electives:

With the approval of an adviser, students may select 15 hours from the following:

*	INS 4200	NASD Series 22 Review	2	0	2
*	INS 4208	Part 8Li- Life Insurance Investments - LOMA	2	0	2
*	INS 4210	Part 10gi-Group Insurance - LOMA	2	0	2
*	INS 4211	Part 10cl-Life and Health Insurance Claims - LOMA	2	0	2
	INS 4317	Multiline Insurance Law and Operations	3	0	3
	INS 4322	Financial System in the Economy (HS 322)	3	0	3
	INS 4325	Group Benefits (HS 325)	3	0	3
	INS 4326	Planning for Retirement Needs (HS 326)	3	0	3
	INS 4328	Investments (HS 328)	3	0	3
	INS 4329	Wealth Accumulation Planning (HS 329)	3	0	3
	INS 4330	Fundamentals of Estate Planning (HS 330)	3	0	3
	INS 4331	Planning for Business Owners and Professionals (HS 331)	3	0	3
	INS 4332	Financial Planning Applications (HS 332)	3	0	3
	INS 4334	Fundamentals of Estate Planning II (HS 334)	3	0	3
	INS 4336	Financial Decision Making at Retirement (HS 336)	3	0	3
	INS 4337	Business Taxation and Planning (HS 337)	3	0	3
	INS 4400	Disability Income Training Course (LUTC)	4	0	4
	INS 4401	NASD Series 7 Review	4	0	4
	INS 4404	Fundamentals of Financial Services (LUTC)	4	0	4
	INS 4405	Professional Growth (LUTC)	4	0	4
	INS 4406	Multiline Skills (LUTC)	4	0	4
	INS 4408	Personal Estate Planning and Retirement Planning (LUTC)	4	0	4
	INS 4409	Advanced Business Planning (LUTC)	4	0	4
	INS 4701	Personal Insurance Course (LUTC)	7	0	7
	INS 4702	Business Insurance Training (LUTC)	7	0	7

Related Electives:

With the approval of an adviser, students may select 11 hours from the following:

	ACC 1604	Principles of Accounting I	5	2	6
*	ACC 1605	Principles of Accounting II	5	2	6
*	ACC 4414	Microcomputer Accounting–General Ledger	2	4	4
*	ACC 4425	Taxes - Business and Fiduciary	3	2	4
*	ACC 4434	Taxes - Individual	3	2	4
	AUB 5203	Estimating Auto Body Damage	2	0	2
*	BUS 2305	Business Law II	3	0	3
	FIN 3303	Personal Investing	3	0	3
	FIN 4317	Financial Statement Analysis	3	0	3
	FIP 3401	Plant Emergency Operations	3	2	4
	FIP 3406	Arson Investigation I	3	2	4
*	FIP 3408	Arson Investigation II	3	2	4
	HSE 4500	Environmental Liability	5	0	5
	INS 4284	Cooperative Education I	0	20	2
*	INS 4285	Cooperative Education II	0	20	2
*	INS 4286	Cooperative Education III	0	20	2
	LEX 3310	Introduction to Civil Procedure	3	0	3
*	LEX 3320	Evidence	3	0	3
*	LEX 4321	Tort Law	3	0	3
*	LEX 4332	Trial Preparation and Procedures	3	0	3
	LEX 4340	Qualified Pension Plans	3	0	3
	LEX 4341	Worker's Compensation Law	3	0	3
	LEX 4361	Interpreting Medical Reports	3	0	3
	MGT 2314	Principles of Management	3	0	3
	MGT 3303	Small Business Management	3	0	3
	MKT 3320	Fundamentals of Selling	3	0	3
*	MKT 4305	Advanced Selling Skills	3	0	3
*	MKT 4325	Sales Management	3	0	3
	MKT 4385	Service Marketing	3	0	3
	PSC 3303	Motor Vehicle Laws of North Carolina	3	0	3
	PSC 3504	Crime Scene Technology	4	2	5
	PSC 4517	Principles of Interviewing and Interrogation	5	0	5
	SEC 3311	Receptionist Skills	3	0	3
	SEC 3312	Introduction to Word Processing	2	2	3
	SEC 3414	Shorthand I	3	2	4
	SEC 4305	Business Communications	3	0	3

\+ ENG 1505 should be taken in lieu of ENG 3405 for students who may later transfer, and MAT 1504 and 1505 should be taken in lieu of FIN 3314.

* Prerequisite or corequisite is required; check course description for details.

Insurance Certificate (Advanced Technical Specialty) (T-228)

Official Program Description registered with the NC Department of Community Colleges:

This curriculum is designed to provide preparatory courses for meeting the education requirements to sit for examinations for the insurance industry's accepted national designations such as Chartered Life Underwriter (CLU), Chartered Financial Consultant (ChFC), Chartered Property and Casualty Underwriter (CPCU), Life Underwriter Training Council Fellow (LUTCF), Fellow Life Management Institute (FLMI), Certified Employee Benefit Specialist (CEBS), and Agency Management Training Course (AMTC).

Upon completion of this curriculum, an individual should have completed the courses necessary to sit for all parts of national examinations for which courses have been taken. Employment opportunities may be found in insurance agencies, insurance company regional and home offices,real estate firms, human resource division of organizations, banks, savings and loans, credit unions, and consulting firms. Employment opportunities may also be found in the areas of financial planning and risk management.

Certificate Awarded

A Certificate in Insurance - Advanced Technical Specialty is awarded by the College upon completion of this program.

Note

Progress in this program is dependent on maintaining a grade of C or better for all courses in the curriculum.

Courses successfully completed with a grade of C or better in this program may be applied towards the Associate in Applied Science Degree - Insurance.

Students should be aware that many of these courses do not run on the regular 11 week quarter schedule used by most of the College.

For More Information

The Insurance programs are a part of the Institute of Banking, Insurance and Real Estate and are in the Accounting and Public Safety Department. For more information, call the Program Director, (704)342-6420; the Institute of Banking, Insurance and Real Estate Office, (704)342-6692; or the Department office, (704)342-6026, weekdays, 8 a.m. - 4:30 p.m. Program Counselors can be reached by calling (704)342-6059 or 6229.

Admissions

- A High School Diploma or equivalent is required.
- Students are admitted into the Insurance Advanced Specialty Certificate program each quarter.

First Step to Enroll

Call the Welcome Center - (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Courses Requirements:					
Major Electives - with the approval of the faculty advisor, the student may choose 30 hours from the following courses:					
	INS 4200	NASD Series 22 Review	2	0	2
	INS 4201	Part 1 - Principles of Life and Health Insurance - LOMA	2	0	2
*	INS 4202	Part 2 - Life and Health Company Operations - LOMA	2	0	2
*	INS 4203	Part 3 - Legal Aspects of Life and Health Insurance - LOMA	2	0	2
*	INS 4208	Part 8Li - Life Insurance Investments - LOMA	2	0	2
*	INS 4210	Part 10gi - Group Insurance - LOMA	2	0	2
*	INS 4211	Part 10cl - Life and Health Insurance Claim - LOMA	2	0	2
*	INS 4280	NASD Series 6 and 63 Review	2	0	2
	INS 4294	General Insurance - Part I - Introduction	2	0	2
*	INS 4297	General Insurance - Part IV - Adjusters	2	0	2
*	INS 4298	General Insurance - Part V - Medicare Supplement/Long Term Care	2	0	2
	INS 4315	Property and Liability Insurance (HS315)	3	0	3
	INS 4320	Fundamentals of Financial Planning (HS320)	3	0	3
	INS 4321	Income Taxation (HS321)	3	0	3

INS	4322	Financial System in the Economy (HS322)	3	0	3
INS	4323	Individual Life and Health Insurance (HS323)	3	0	3
INS	4324	Life Insurance Law (HS324)	3	0	3
INS	4325	Group Benefits (HS325)	3	0	3
INS	4326	Planning for Retirement Needs (HS326)	3	0	3
INS	4328	Investments (HS328)	3	0	3
INS	4329	Wealth Accumulation Planning (HS329)	3	0	3
INS	4330	Fundamentals of Estate Planning I (HS330)	3	0	3
INS	4331	Planning for Business Owners and Professionals (HS331)	3	0	3
INS	4332	Financial Planning Applications (HS332)	3	0	3
INS	4334	Fundamentals of Estate Planning II (H5334)	3	0	3
INS	4336	Financial Decision Making at Retirement (HS336)	3	0	3
INS	4337	Business Taxation and Planning (HS337)	3	0	3
* INS	4395	General Insurance-Part II - Life and Health	3	0	3
* INS	4396	General Insurance-Part III - Property and Casualty	3	0	3
INS	4400	Disability Income Training Course (LUTC)	4	0	4
INS	4401	NASD Series 7 Review	4	0	4
INS	4404	Fundamentals of Financial Services (LUTC)	4	0	4
INS	4405	Personal Growth (LUTC)	4	0	4
INS	4406	Multiline Skills (LUTC)	4	0	4
INS	4708	Personal Estate Planning and Retirement Planning (LUTC)	4	0	4
INS	4409	Advanced Business Planning (LUTC)	4	0	4
INS	4701	Personal Insurance Training Course (LUTC)	7	0	7
INS	4702	Business Insurance Training Course (LUTC)	7	0	7

Insurance Certificate (Technical Specialty) (T229)

Official Program Description registered with the NC Department of Community Colleges:

The purpose of this curriculum is to provide the courses to meet the education requirements for state licensing examinations for agents in selected areas such as Life, Accident and Health; Accident and Health; Medicare Supplement / Long Term Care; Fire and Casualty; National Association of Security Dealers; and Adjusters.

An additional purpose of the curriculum is to provide the first of a series of preparatory courses for sitting for examinations that are nationally recognized designations. The nationally recognized designations may include those such as Chartered Life Underwriter (CLU), Chartered Financial Consultant (ChFC), Chartered Property and Casualty Underwriter (CPCU), Life Underwriter Training Council Fellow (LUTCF), Fellow Life Management Institute (FLMI), Certified Employee Benefit Specialist (CEBS), and Agency Management Training Course (AMTC).

Employment opportunities may be found in insurance companies, insurance agencies, banks, savings and loans, credit unions, stock brokerage firms, auto dealerships, real estate firms, independent adjusting companies, and human resource divisions in business establishments.

Certificate Awarded

A Certificate in Insurance – Technical Specialty is awarded by the College upon completion of this program.

Note

Progress in this program is dependent on maintaining a grade of C or better for all courses in the curriculum.

Courses successfully completed with a grade of C or better in this program may be applied towards the Certificate in Insurance – Advanced Technical Specialty and towards the Associate in Applied Science Degree – Insurance.

Students should be aware that many of these courses do not run on the regular 11 week quarter schedule used by most of the College.

For More Information

The Insurance programs are a part of the Institute of Banking, Insurance and Real Estate and are in the Accounting and Public Safety Department. For more information, call the Program Director, (704) 342-6420; the Institute of Banking, Insurance and Real Estate office, (704) 342-6692; or the Department office, (704) 342-6026, weekdays, 8 a.m. - 4:30 p.m. Program Counselors can be reached by calling (704) 342-6059 or 6229.

Admissions

- A High School Diploma or equivalent is required.
- Students are admitted into the Insurance Technical Specialty Certificate program each quarter.

First Step to Enroll

Call the Welcome Center – (704) 342-6719

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
INS	4294	General Insurance - Part I - Introduction	2	0	2
* INS	4395	General Insurance - Part II - Life and Health	3	0	3
* INS	4396	General Insurance - Part III - Property and Casualty	3	0	3
Major Electives:			8	0	8
Total Credit Hours					16
Major Electives:					
Select at least 8 hours from the following					
* INS	4200	NASD Series 22 Review	2	0	2
INS	4201	Part I - Life and Health Insurance - LOMA	2	0	2
* INS	4280	NASD Series 6 and 63	2	0	2
* INS	4297	General Insurance Part IV - Adjusters	2	0	2
* INS	4298	General Insurance Part V - Medicare Supplement/ Long Term Care	2	0	2
INS	4315	Property and Liability (HS315)	3	0	3
INS	4320	Fundamentals of Financial Planning (HS320)	3	0	3
INS	4401	NASD Series 7 Review	4	0	4

Interior Design (T077)

Official Program Description registered with the NC Department of Community Colleges:

The Interior Design curriculum prepares students for a variety of job opportunities in the fields of both residential and non-residential design. The course of study includes principles and elements of design, drafting, visual communication techniques, the history of styles, currently manufactured products, color theory, furniture design and construction, floor coverings, fabrics, window treatments, wall coverings, paint, accessories, and lighting. Students have the opportunity to cover the elements of interior design and to demonstrate their abilities in interior coordination.

Graduates of this program may qualify for various positions with the following types of employers: interior design studios, furniture manufacturers, architects, furniture design studios, photography studios, and any type of business dealing with interior furnishings.

General Information

Increasingly, our interior living and working spaces are being developed for a more sophisticated society. The Interior Design program at CPCC prepares students to design the interior spaces of today and tomorrow using the best of today's technology.

Degree Awarded

The Associate in Applied Science Degree – Interior Design is awarded by the College upon completion of this program.

For More Information

For more information, contact a Program Counselor – (704)342-6862, 6443, or 5922, or the Program Director – (704)342-6437, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required. GED High School Equivalent and High School Diploma classes are available from CPCC.
- CPCC placement tests are required in English and mathematics. Advancement studies (9000-series) mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Related Course Requirements:					
ARC 3303	Interior Design Drafting I	1	0	6	3
*ARC 3304	Interior Design Drafting II	1	0	6	3
*ARC 3314	Architectural Computer Drafting I (AutoCAD)	1	0	6	3
*ARC 3326	Residential Design	1	0	6	3
ARC 3334	Basic Architectural Drafting	1	0	6	3
ART 1311	History of Art II	3	0	0	3
ART 1404	**General Drawing I**	**2**	**4**	**0**	**4**
ART 1424	**Design I**	**2**	**4**	**0**	**4**
*ART 1425	Design II	2	4	0	4
EDN 4205	**Orientation**	**2**	**0**	**0**	**2**
*EDN 4304	Interior Presentations	1	0	6	3
EDN 4307	Survey of Materials	1	4	0	3
*EDN 4310	Design Sketching I	0	6	0	3
*EDN 4311	Design Sketching II	0	6	0	3
EDN 4312	Professional Practices and Procedures	3	0	0	3
EDN 4316	Period Furniture and Furnishings I	3	0	0	3
*EDN 4317	Period Furniture and Furnishings II	3	0	0	3
EDN 4320	Introduction to Textiles	3	0	0	3
*EDN 4406	Contract Interiors	2	4	0	4
*EDN 4314	Applied Problems Studio I	1	0	6	3
*EDN 4315	Applied Problems Studio II	1	0	6	3
*EDN 4416	Applied Problems Studio III	2	4	0	4
SCI 3300	Principles of Science	3	0	0	3
	TECHNICAL ELECTIVES				6
					79
General Education Core Requirements:					
***ENG 1504**	**English Composition I**	**5**	**0**	**0**	**5**
*ENG 1505	English Composition II	5	0	0	5
SPH 1300	Oral Communications	3	0	0	3
***MAT 3325**	**General College Math**	**3**	**0**	**0**	**3**
EDN 3304	Macintosh Applications in Interior Design	2	2	0	3
ART 1310	History of Art I	3	0	0	3
ARC 3320	**Introduction to Architecture**	**3**	**0**	**0**	**3**
PHY 2504	General Psychology	5	0	0	5
					30
Total Credits Including Electives 109					
Technical Electives:					
*ARC 3315	Architectural Computer Drafting II	1	0	6	3
ART 1312	History of Art III	3	0	0	3
*CIV 4300	Codes and Contracts	2	0	3	3
EDN 4206	Cooperative Work Experience	0	0	20	2
EDN 4300	Survey of Interior Design	3	0	0	3
EDP 3310	Microcomputer Operations	2	2	0	3
HOR 3312	Indoor Plants	2	2	0	3
INT 3300	Introduction to International Business	3	0	3	3
MKT 3320	Fundamentals of Selling	3	0	0	3

Students may select other Electives with advice from Program Director.

* Prerequisite or corequisite is required; check course description for details.

International Business (T207)

Official Program Description registered with the NC Department of Community Colleges:

This program is designed to prepare an individual for positions in international business. The curriculum includes a core of business, social science, and foreign language courses coupled with specialized courses in international finance, international marketing, and international business practices.

The student will be prepared for employment in international business based on demonstrated language skills; knowledge of geographic, political, and cultural differences; ability to process import-export documentation; knowledge of international economics and finance; and knowledge of the different forms and practices of business around the world.

Employment opportunities are available in import/export departments, freight forwarder companies, custom house brokerage firms, and international departments of banks.

Degree Awarded

The Associate in Applied Science Degree – International Business is awarded by the College upon completion of this program.

A Certificate in International Business is also available upon completion of 35 credit hours of specified required courses.

For More Information

The International Business program is in the Business Administration Department. For more information, call the Program Director – (704)342-6284, or the Department Head – (704)342-6646, weekdays, 8 a.m.-5 p.m. The Program Counselor can be reached by calling (704)342-6426.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests in English, mathematics, and reading determine placement in English (ENG) or mathematics (MAT) courses.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
	INT 3305	International Marketing	3	0	3
	INT 3306	International Business Practice	3	0	3
	INT 3307	Economics of International Trade	3	0	3
	INT 4307	International Law	3	0	3
	TRN 4375	Import Transportation Management	3	0	3
	TRN 4380	Export Transportation Management	3	0	3
*	ACC 4308	International Accounting/Taxation	3	0	3
*	BAF 4303	International Banking	3	0	3
	BUS 1500	**Introduction to Business**	**5**	**0**	**5**
*	BUS 2304	Business Law I	3	0	3
*	BUS 2305	Business Law II	3	0	3
*	MGT 2314	Principles of Management	3	0	3
	ACC 1604	Principles of Accounting I	5	2	6
*	ACC 1605	Principles of Accounting II	5	2	6
	GPY 1500	Introduction to World Geography	5	0	5
*	ECO 2305	Economics II	3	0	3
	TECHNICAL ELECTIVES		13	0	13
	Free Elective		3	0	3
*	Intermediate Foreign Language II (GER, FRE,SPA)		5	2	6
					80
General Education Core Requirements:					
*	**ENG 1504**	**English Composition I**	**5**	**0**	**5**
*	ENG 3405	Technical English+ or			
*	ENG 1505	English Composition II	4	0	4
	SPH 1300	**Oral Communications**	**3**	**0**	**3**
*	MAT 3325	General College Mathematics+ or			
*	MAT 1504	College Algebra I	3	0	3
	Science and Technology Elective: Choose any course listed under General Education Goal III Area I		3	0	3
	EDP 3310	**Microcomputer Operations**	**2**	**2**	**3**
*	Intermediate Foreign Language I (GER, FRE, SPA)		5	2	6
	INT 3300	**Introduction to International Business**	**3**	**0**	**3**
	ECO 2304	Economics I	3	0	3
					33
Total Credit Hours					113

Technical Electives:

With the approval of the advisor, student chooses thirteen (13) hours from technical electives listed below:

	INT 4225	Cooperative Work Experience I**	0	20	2
	INT 4226	Cooperative Work Experience II**	0	20	2
*	BUS 3300	Human Relations I	3	0	3
	BUS 3304	Business Statistics I	3	0	3
*	FIN 4334	Business Finance I	3	0	3
*	LEX 4322	Corporate Law	3	0	3
*	MGT 3303	Small Business Management	3	0	3
*	MGT 4332	Human Resources Management I	3	0	3
*	ECO 2306	Economics III	3	0	3
	SPH 2310	Intercultural Communication	3	0	3
*	BUS 2306	Business Law III	3	0	3

+ MAT 1504, 1505, or 1514 should be taken in lieu of MAT 3325, and ENG 1505 in lieu of ENG 3405 for students who may later transfer.

* Prerequisite or corequisite is required; see course description for details.

** INT 4225 (Cooperative Work Experience I) and INT 4226 (Cooperative Work Experience II) or INT 4425 (Travel Study Abroad) can only be registered for after consultation with Program Director – maximum credit hours: 4).

Interpreter Training (T185)

Official Program Description registered with the NC Department of Community Colleges:

The Interpreter Training curriculum prepares individuals to work as interpreters for the deaf and provides instruction for presently-employed interpreters who wish to further develop their skills. Instruction includes the study of hearing and deafness, the use of American Sign Language and fingerspelling, and the process of interpreting and translating in various types of situations. Knowledge of theory is supplemented with the opportunity to practice interpreting to develop receptive ability and clarity and speed of translation.

Graduates of the program may find employment translating spoken language into sign language for understanding of the deaf or interpreting sign language of the deaf into oral or written language for hearing individuals. Job opportunities exist with educational, medical, legal and community agencies as teacher assistants, interpreter/tutors, or secretary/interpreters. Individuals may also choose to be self-employed as free-lance interpreters.

Degree Awarded

The Associate in Applied Science Degree – Interpreter Training is awarded by the College upon completion of this program.

Program Accreditation

Interpreter Training Associate and Human Services Technology courses have been approved by the National Board for Certified Counselors (NBCC) for Professional Counselor (NCC) renewal credit.

Note

Completion of 116 credit hours is required for the Degree.

The 10 credit hours of Related Electives are not all designated. These courses are selected with the Program Director in consideration of the student's goals. This allows development of a second skill in the area in which the student would like to work,

thus making the student's services more marketable.

Students interested in transferring to a senior institution should enroll in the 1000- and 2000-level mathematics and science courses. Students should also consult with a faculty Advisor or Program Counselor regarding the transferability of this program to senior institutions.

For More Information

The Interpreter Training program is in the Human Services Department. For more information, call the Program Director – (704)342-6829, weekdays, 8 a.m.-5 p.m. The Program Counselors can be reached by calling (704)342-6392.

Admissions

- A High School Diploma or equivalent is required
- After completing placement tests, students will then see the Program Counselor who will advise them before they see the Program Director. An interview with the Program Director is required for entry into the program.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	WK-EXP /WK	HRS CR/ QTR
Major and Related Course Requirements:						
*IPP	1602	Sign Language II	5	2	0	6
*IPP	1503	Intercultural Communication and Translation	5	0	0	5
IPP	3301	Interpreting: An Overview	3	0	0	3
IPP	3501	Comparative Cultures: American Deaf and Mainstream	5	0	0	5
IPP	3302	Critical Thinking and Analytical Skills for Interpreters	I	4	0	3
*IPP	3314	Introduction to Discourse Analysis	3	0	0	3
*IPP	3514	Introduction to Consecutive Interpretation	2	6	0	5
*IPP	3515	Consecutive Interpretation II	2	6	0	5
*IPP	3516	Introduction to Simultaneous Interpretation	2	6	0	5
*IPP	3517	Simultaneous Interpretation II	2	6	0	5
IPP	4100	ASL Numbers & Fingerspelling	0	2	0	1
HSA	3501	Introduction to HSA	5	0	0	5
*HSA	3340	Client Group Dynamics	3	0	0	3
*HSA	3341	Interpersonal Relationships II	3	0	0	3
*IPP	4308	Interpreting Practicum	1	0	20	3
^ Related Electives			10	0	0	10
TECHNICAL ELECTIVES			3	0	0	3
Electives (free)			3	0	0	3
						76
General Education Core Requirements						
*ENG	1504	English Composition I	5	0	0	5
*ENG	1505	English Composition II	5	0	0	5
SPH	2304	Public Speaking	3	0	0	3
*MAT	3325	General College Mathematics	3	0	0	3
BIO	3500	Basic Health Science	4	2	0	5
EDP	3310	Microcomputer Operations	2	2	0	3
IPP	1601	Sign Language I	5	2	0	6
ANT	1502	Anthropology	5	0	0	5
HSA	3502	Interpersonal Relationships I	5	0	0	5
						40

Total Credit Hours 116

Technical Electives:

Student chooses 3 hours from the following list:

IPP	4300	Hearing & Deafness	3	0	0	3
IPP	3324	Conversational Sign Language I	3	0	0	3
*IPP	3325	Conversational Sign Language II	3	0	0	3
*IPP	4310	Overview of Educational Interpreting Within the U.S. Educational System	3	0	0	3

* Prerequisite or corequisite is required; see course description for details.

^ Related Electives are selected with the approval of the Program Director, depending on the area of interest that students wished to combine with interpreting skills. The Program Director will work with the students individually to help them choose appropriate courses.

Law Enforcement Technology (T064)

Official Program Description registered with the NC Department of Community Colleges:

The Law Enforcement Technology curriculum prepares individuals for a career in the law enforcement services occupations field and other allied occupations. Law Enforcement occupations require a thorough understanding of criminal behavior, criminal investigation, interpersonal communication, law, patrol operations, psychology, sociology, traffic management, and other aspects of law enforcement administration and operations.

Job opportunities are available with federal, state, county, and municipal governments. In addition, knowledge, skills and abilities acquired in this course of study qualify one for job opportunities with private enterprise in such areas as industrial, retail, and private security.

Degree Awarded

The Associate in Applied Science Degree – Law Enforcement is awarded by the College upon completion of this program.

For More Information

The Law Enforcement Technology program is in the Accounting and Public Safety Department. For more information, call a faculty advisor – (704)342-6026 or the Program Director – (704)342-6026, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- A High School Diploma or equivalent is required.
- Some courses require placement tests prior to registration.
- **Students entering this program without advisement should enroll in the courses in bold print first.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
^ PSC	3303	Motor Vehicle Laws of North Carolina	3	0	3
PSC	**3500**	**Introduction to Criminology**	**5**	**0**	**5**
PSC	**3501**	**Introduction to Law Enforcement**	**5**	**0**	**5**
PSC	3504	Crime Scene Technology	4	2	5
^ PSC	3510	Criminal Law	5	0	5
PSC	3514	Police Organization and Administration	5	0	5

	PSC 4312	Organized Crime	3	0	3
	PSC 4501	Constitutional Law	5	0	5
	PSC 4503	Law Enforcement Psychology	5	0	5
*	PSC 4504	Criminal Procedure and Rules of Evidence	5	0	5
	PSC 4505	Criminal Investigation	5	0	5
*	PSC 4506	Advanced Crime Scene Technology	4	2	5
^	PSC 4510	Law Enforcement Operations	5	0	5
	PSC 4520	Public Relations in Law Enforcement	5	0	5
	CSC 3504	Juvenile Justice System	5	0	5
	PSC 4516	Executive Protection and Terrorism	5	0	5
	PSC 4517	Principles of Interviewing and Interrogation	5	0	5
	TECHNICAL ELECTIVES		10	0	10
					91

General Education Core Requirements:

*	**ENG 1504**	**English Composition I**	**5**	**0**	**5**
*	ENG 3405	Technical English II+	4	0	4
	SPH 1300	Oral Communications	3	0	3
*	**MAT 3325**	**General College Mathematics+**	**3**	**0**	**3**
	Science and Technology Elective: Choose any course listed under General Education Goal III Area I.		3	0	3
	EDP 3310	**Microcomputer Operations**	**2**	**2**	**3**
	SPH 2310	Intercultural Communications	3	0	3
	Self and Society Elective: Choose any course listed under General Education Goal VII.		3	0	3
					27

Total Credit Hours 118

Technical Electives: 10 hours must be taken from the following:

	CSC 3505	Victimology	5	0	5
	CSC 3507	Criminal Personality and Behavior	5	0	5
	CSC 3508	Drugs, Society, and Crime	5	0	5
	CSC 3509	Court Intake Procedures	5	0	5
	CSC 3510	Women in the Criminal Justice System	5	0	5
	CSC 4284	Cooperative Work Experience I	0	20	2
	PSC 4530	Community-Oriented Policing	5	0	5

+ Students planning to transfer should take MAT 1504, 1505 and ENG 1505.

* Prerequisite or corequisite is required; check course description for details.

^ These courses may be substituted for successful completion of Basic Law Enforcement Training.

Law Enforcement Training, Basic - See Basic Law Enforcement Training (T189)

Machinist (V032)

Official Program Description registered with the NC Department of Community Colleges:

The Machinist curriculum gives individuals the opportunity to acquire basic skills and related technical information necessary to gain employment in the metalworking industries. The machinist is a skilled metalworker who shapes metal by using machine tools and hand tools. Machinists must be able to set up and operate the machine tools found in a modern shop. Computer numerical control (CNC) may be integrated into various phases of the curriculum or as specialized courses.

The machinist is able to select the proper tools and materials required for each job, and to plan the cutting and finishing operations in their proper order so that the work can be finished according to blueprints or written specifications. The machinist makes computations relating to dimensions of work, tooling, feeds and speeds of machining. Precision measuring instruments are used to measure the accuracy of work. The machinist also must know the characteristics of metals so that annealing and hardening of tools and metal parts can be accomplished in the process of turning a block of metal into an intricate precise part.

Diploma Awarded

A Diploma in Machinist is awarded by the College upon completion of this program.

Note

The Machinist program at CPCC places great emphasis on the operation, set-up, and programming of computer numerical control (CNC) machine tools, in both turning and machining center applications.

A basic knowledge in metal removal is provided by hands-on activities in the operation and set-up of conventional machine tools such as turning, milling, and grinding applications.

All shop/lab/projects and activities in both CNC and conventional machining are performed on full-scale industrial equipment, commonly used in local industry.

Cooperative work experience is also available for curriculum credit. After completion of two quarters, CPCC's Co-Op office works with each student to help find an employer sponsor, which provides students the opportunity to earn while they are learning.

Students who do not take program-related courses for four consecutive quarters must reenter the program under the Catalog in effect at the time of reentry.

For More Information

The Machinist program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – (704)342-6881, or the Machinist Program Director – (704)342-6608, weekdays, 8 a.m.-5 p.m.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as a foundation of a career in this area.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
ENG 5500	Communication Skills	5	0	5
HSA 5200	Human Relations	2	0	2
MAC 3200	Precision Instrument Reading	2	0	2
MAC 3203	Blueprint Reading for Machinists I	1	2	2
* MAC 3204	Blueprint Reading for Machinists II	1	2	2
MAC 3300	Fundamentals of Computer Numerical Control Programming	3	0	3
* MAC 3303	Computer Numerical Control Machining Center Operation	2	3	3
* MAC 3304	Computer Numerical Control Programming – Turning Center	2	2	3

* MAC 3305	Computer Numerical Control Programming – Machining Center	2	2	3
* MAC 3306	Computer Numerical Control Turning Center Operations	2	3	3
* MAC 3307	Machine Tool Applications	0	9	3
* MAC 3311	Basic Lathe Operations	1	6	3
* MAC 3313	Layout, Hand Tool and Drill Press Procedures	1	6	3
* MAC 3320	Calculations for Machinists II	3	0	3
MAC 3401	Basic Calculations for Machinists I	4	0	4
* MAC 3422	Basic Milling Operations	2	6	4
* MAC 3424	Grinding Machine Operations	2	6	4
* MAC 3315	General Machining & Maintenance or	1	6	3
* MAC 4317	Computer Numerical Control Graphics Programming Turning Center	2	2	3
* MAC 4310	Computer Numerical Control Programming Applications or	2	2	3
* MAC 4318	Computer Numerical Control Graphics Programming Machining Center	2	2	3
MEC 5214	Applied Metallurgy I	1	3	2
* MEC 5215	Applied Metallurgy II	1	3	2
PHY 5304	Applied Physics I	2	2	3
* PHY 5305	Applied Physics II	2	2	3
WLD 5210	Basic Oxyacetylene Welding	1	3	2
	TECHNICAL ELECTIVE	4	0	4

Total Credit Hours 74

Technical Electives:

With the approval of an advisor, students may select four hours from the following:

MAC 3205	Coordinate Measuring Machine Applications	1	2	2
MAC 3296	Machinist Co-op I	0	20	2
* MAC 3297	Machinist Co-op II	0	20	2
* MAC 4319	Advanced 3-D Graphics Programming	2	2	3
MFG 4307	Introduction to Robotics	2	2	3
WLD 5220	Basic Electricity Arc Welding	1	3	2
WLD 5250	Basic Gas Metal Arc Welding	1	3	2

* Prerequisite or corequisite is required; check course description for details.

Machining Technology (T121)

Subject to State Approval

Official Program Description registered with the NC Department of Community Colleges:

The Machining Technology curriculum is a comprehensive program designed to develop skills in the theory and use of hand tools, power machinery, computerized equipment and sophisticated precision inspection instruments. Basic machining skills and introductory computer numerical control (CNC) courses are taught in the first half of the program. The second half of the program emphasizes the setup and operation of CNC machines, advanced CNC parts programming, CAD/CAM operations and quality assurance inspection skills.

Related coursework includes blueprint reading, applied mathematics through trigonometry, microcomputer skills and quality assurance theory.

Employment opportunities for machining technicians exist in manufacturing industries, public institutions, governmental agencies and in a wide range of specialty machining job shops.

Degree Awarded

The Associate in Applied Science Degree - Machining Technology will be awarded by the College upon completion of the program.

Note

The Machining Technology program at CPCC, while placing emphasis on the basics of machining and CNC programming, offers students the opportunity to expand knowledge and skills into CAD, Robotics, and a broader, in depth knowledge of CNC Graphics Programming in both 2-D and 3-D applications.

Students in the Machining Technology program gain skills and knowledge in design, process planning, and computer applications to bridge the gap between the production floor and the Mechanical and Manufacturing Engineering Departments of local industry.

All shop/lab/projects and activities in both CNC and conventional machining are performed on full-scale industrial equipment commonly used in local industry.

Robotics, CNC machine tools, CNC graphics programming, and hands-on experience with computers, keep the machining profession an ever-changing and challenging career.

Cooperative work experience is also available for curriculum credit. After the completion of two quarters, CPCC's Co-Op office works with each student to help find an employer sponsor, which provides students the opportunity to earn while they are learning.

Students who do not take program-related courses for four consecutive quarters must reenter the program under the Catalog in effect at the time of reentry.

For More Information

The Machining Technology program is in the Engineering & Advanced Technology Department. For more information, contact the Program Counselor - (704)342-6881 or the Machining Technology Program Director - (704)342-6608, weekdays, between 8 a.m. and 5 p.m.

Admissions

- High School Diploma or equivalent is required.
- CPCC placement tests are required in English and mathematics. Advancement studies (9000 series) mathematics and English courses are available for students to build skills and knowledge.
- A counseling/orientation appointment follows placement testing.

First step to Enroll

Call the Welcome Center - (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
* DFT 3314	Mechanical Computer Aided Drafting 2-D, AutoCAD	2	3	3
DFT 3404	Mechanical Drafting	2	6	4
EDP 3310	Microcomputer Operations +	2	2	3
MAC 3200	Precision Instrument Reading	2	0	2
MAC 3203	Blueprint Reading for Machinists I	1	2	2
MAC 3300	Fundamentals of Computer Numerical Control	3	0	3
* MAC 3303	Computer Numerical Control Machining Center Operations	2	3	3
* MAC 3304	Computer Numerical Control Programming - Turning Center	2	2	3

Major and Related Course Requirements:

*MAC 3305	Computer Numerical Control Programming - Machining Center	2	2	3
*MAC 3306	Computer Numerical Control Turning Center Operations	2	3	3
*MAC 3307	Machine Tool Applications	0	9	3
*MAC 3311	Basic Lathe Operations	1	6	3
*MAC 3313	Layout, Hand Tool, & Drill Press Procedures	1	6	3
*MAC 3315	General Machining & Maintenance	1	6	3
*MAC 3320	Calculations for Machinists II	3	0	3
*MAC 3422	Basic Milling Operations	2	6	4
*MAC 3424	Grinding Machine Operations	2	6	4
*MAC 4310	Computer Numerical Control Programming Applications	2	2	3
*MAC 4317	Computer Numerical Control Graphics Programming Turning Center	2	2	3
*MAC 4318	Computer Numerical Control Graphics Programming Machining Center	2	2	3
*MAC 4319	Advanced 3-D Graphics Programming	2	2	3
*MEC 4403	Engineering Materials	3	3	4
*MFG 3307	Introduction to CIM	3	0	3
*MFG 4307	Introduction to Robotics	2	3	3
*MFG 4314	Statistical Quality Control	2	3	3
*MFG 4316	Process Planning	2	3	3
MGT 4330	Supervision	3	0	3
*PHY 5305	Applied Physics II +	2	2	3
WLD 5210	Basic Oxyacetylene Welding	1	3	2
TECHNICAL ELECTIVES		6	0	6
				94

General Education Core Requirements:

*ENG 1504	English Composition I	5	0	5
*ENG 3405	Technical English I	4	0	4
SPH 1300	Oral Communications	3	0	3
*MAT 3504	Technical Mathematics I +	5	0	5
PHY 5304	Applied Physics I +	2	2	3
Humanities Elective: Choose any course listed under General Education Goal V.		3	0	3
International Awareness Elective: Choose any course listed under General Education Goal VI.		3	0	3
Self and Society Elective: Choose any course listed under General Education Goal VII.		3	0	3
				29

Total Credit Hours 123

Technical Electives:

With the approval of an advisor, students may select six hours from the following:

*DFT 3317	Computer Aided Drafting (CAD) Detailing	1	6	3
*DFT 3318	CAD Assembly	1	6	3
*DFT 3320	Mechanical Computer Aided Drafting 3-D, AutoCAD	1	6	3
*MAC 3205	Coordinate Measuring Machine Applications	1	2	2
MAC 3296	Machinist Co-Op I	0	20	2
*MAC 3297	Machinist Co-Op II	0	20	2
*MEC 3320	Geometric Dimensioning and Tolerancing (GD & T)/Metrology	2	3	3
*MEC 3504	Production Methods	4	2	5
*MFG 4305	Plant Layout and Materials Handling	2	3	3
*MFG 4308	Robotics/Automation	2	3	3
MGT 3303	Small Business Management	3	0	3

+ EDP 3335 may substitute for EDP 3310.
PHY 1404 and PHY 1405 may substitute for PHY 5304 and PHY 5305. MAT 3507 may substitute for MAT 3504.

* Prerequisite or corequisite is required; check course description for details.

Manufacturing Engineering Technology (T050)

Official Program Description registered with the NC Department of Community Colleges:

The primary objective of the Manufacturing Engineering Technology curriculum is the training of personnel to assist the engineer or small industry in planning, tooling, operating, servicing and supervising manufacturing operations. This curriculum provides a basic background of mechanical and related theory with specific skills in the use of manufacturing and testing equipment. Students are given experiences in operating and servicing machines, accompanied by general education and management courses.

A graduate of this program may qualify for an entry position in one of several manufacturing functions: methods, analysis, production scheduling, quality control, materials testing, plant layout, time study, machine tooling, maintenance, and equipment and instrument work.

Degree Awarded

The Associate in Applied Science Degree – Manufacturing Engineering Technology is awarded by the College upon completion of this program.

Program Accreditation

The Manufacturing Engineering Technology program at CPCC is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

The Manufacturing Engineering Technology curriculum at Central Piedmont Community College is a comprehensive program featuring extensive hands-on CAD/CAM instruction in the practical application of both fundamental and highly specialized manufacturing engineering technology principles. Students advance from basic courses to specialized manufacturing, industrial, and mechanical engineering technology courses that provide concentrated study in the practical application of state-of-the-art technological knowledge and skills needed in today's high technology manufacturing including Robotics/Automation and CAD/CAM.

Completion of this program requires that students use college-level algebra, trigonometry, and physics in applying scientific principles to technological problems.

For More Information

The Manufacturing Engineering Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – (704)342-6881 or the Manufacturing Engineering Technology Program Director – (704)342-6553, weekdays, 8 a.m.to 5 p.m.

Admissions

- A High School Diploma or equivalent is required. High school students preparing for an engineering technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.

- Placement tests in English and mathematics determine the entry-level courses that match individual needs. Advancement Studies (9000-series) mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.

First Step to Enroll
Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
*DFT 3314	Mechanical CAD, AutoCAD 2-D	2	3	3
DFT 3404	Mechanical Drafting	2	4	4
EDP 3405	Microcomputer Programming - BASIC	3	2	4
*ELN 4415	Industrial Programmable Controllers	3	3	4
MAC 3201	Machine Operations for Engineering Technicians	1	3	2
*MAC 3312	Computer Numerical Control Graphics Programming for Engineering Technicians	2	2	3
*MAT 3508	Engineering Technology Mathematics II	5	0	5
*MAT 3509	Engineering Technology Mathematics III	5	0	5
MEC 3101	College and Career Orientation	1	0	1
*MEC 3320	Geometric Dimensioning and Tolerancing (GD & T)/Metrology	2	3	3
*MEC 3504	Production Methods	4	2	5
*MEC 3524	Mechanics of Materials	3	6	5
*MEC 4403	Engineering Materials	3	3	4
*MEC 4404	Tool and Die Design	2	6	4
*MEC 4434	Hydraulics and Pneumatics	3	3	4
*MEC 4508	Applied Mechanics	3	6	5
*MFG 3301	Engineering Economic Analysis	2	3	3
*MFG 3307	Introduction to Computer Integrated Manufacturing (CIM)	2	3	3
*MFG 4305	Plant Layout and Materials Handling	2	3	3
*MFG 4307	Introduction to Robotics	2	3	3
*MFG 4308	Robotics/Automation	2	3	3
*MFG 4314	Statistical Quality Control	2	3	3
*MFG 4316	Process Planning	2	3	3
*PHY 1405	Physics II - Elastic & Thermal Properties of Matter	3	2	4
*PHY 1406	Physics III - Electricity & Magnetism	3	2	4
Related Elective				3
TECHNICAL ELECTIVE				3
				96
General Education Core Requirements:				
*ENG 1504	English Composition I	5	0	5
*ENG 3405	Technical English II	4	0	4
SPH 1300	Oral Communications	3	0	3
MAT 3507	Engineering Technology Math I	5	0	5
EDP 3310	Microcomputer Operation	2	2	3
*PHY 1404	Physics I: Basic Mechanics	3	2	4
SPH 2310	Intercultural Communications	3	0	3
Self and Society Elective				3
				30
Total Credit Hours				126

Note: A Humanities Elective and an International Awareness Elective may be taken in lieu of SPH 2310.

Technical Electives: Students may select a minimum of three credit hours from the following:

*DFT 3317	CAD Detailing	1	6	3
*DFT 3318	CAD Assembly	1	6	3
*DFT 3320	Mechanical CAD, AutoCAD 3-D	1	6	3
*MAT 2514	Statistics I	5	0	5
*MEC 4284	Cooperative Work Experience I	0	20	2
*MEC 4285	Cooperative Work Experience II	0	20	2
*MEC 4402	Machine Design	3	3	4
*MEC 4405	Mechanisms	3	3	4
*MEC 4425	Thermodynamics	3	3	4

Related Electives: With Advisor/Counselor approval, select a minimum of three credit hours from the following:

*DFT 3221	Solids Modeling and Rendering - AutoCAD	1	3	2
*EDP 3335	Microcomputer Programming MS/DOS	2	2	3
*MAC 4317	Computer Numerical Control Graphics Programming - Turning Center	2	2	3
*MAC 4318	Computer Numerical Control Graphics Programming - Machining Center	2	2	3
*MAT 2514	Statistics I	5	0	5
*MAT 2515	Statistics II	5	0	5
*MAT 3516	Introduction to Statistical Process Control	5	0	5
*MAT 4507	Engineering Technology Mathematics IV	5	0	5
*MEC 4284	Cooperative Work Experience I	0	20	2
*MEC 4285	Cooperative Work Experience II	0	20	2
MGT 4335	Production Planning and Control	3	0	3

* Prerequisite or corequisite is required; check course description for details.

Marketing and Retailing (T020)

Official Program Description registered with the NC Department of Community Colleges:

The Marketing and Retailing curriculum is designed to prepare the individual for entry into middle-management positions in various marketing and retailing businesses and industries. This purpose will be fulfilled through study and application in areas such as marketing and merchandising techniques, management, selling, advertising, retailing and credit and collection procedures. Through knowledge and skills, students will be able to perform marketing and distribution activities, and through the development of personal competencies and qualities students will be provided the opportunity to enter an array of marketing and distribution jobs.

Degree Awarded

The Associate in Applied Science Degree – Marketing and Retailing is awarded by the College upon completion of this program.

Note

Case studies, simulation, role playing, cooperative education experience, and research are integral parts of this program.

According to the Bureau of Labor Statistics, occupations with the greatest number of new jobs by 1995 include wholesale and retail salespeople.

For More Information

The Marketing and Retailing program is in the Business Administration Department. For more information, call the Program Director at (704)342-6284, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6426.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests in English, mathematics and reading determine enrollment in English (ENG) and mathematics (MAT) courses.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
BUS 1500	**Introduction to Business**	**5**	**0**	**5**
BUS 2304	Business Law I	3	0	3
*BUS 2305	Business Law II	3	0	3
BUS 3300	Human Relations	3	0	3
*BUS 3305	Human Relations II	3	0	3
BUS 3304	Business Statistics	3	0	3
MKT1304	**Marketing I**	**3**	**0**	**3**
*MKT 1305	Marketing II	3	0	3
MKT3320	**Fundamentals of Selling**	**3**	**0**	**3**
MKT 4320	Retailing	3	0	3
MKT 4384	Customer Relations	3	0	3
MKT 4321	Advertising	3	0	3
ACC 1604	Principles of Accounting or			
ACC 3300	General Accounting	5	2	6
EDP 3324	Advanced Microcomputer Operations	2	2	3
FIN 3314	**Business Math I**	**3**	**0**	**3**
ECO 2305	Economics II	3	0	3
INS 3340	Principles of Risk and Insurance	3	0	3
MGT 4330	Supervision	3	0	3
TRN 4356	Introduction to Logistics	3	0	3
TECHNICAL ELECTIVES				18
Free Electives				5
				85
General Education Core Requirements:				
***ENG 1504**	**English Composition I**	**5**	**0**	**5**
*ENG 1304	English Composition II or			
ENG 3405	Technical English II	4	0	4
SPH 1300	Oral Communications	3	0	3
*MAT 3325	General College Mathematics+	3	0	3
Science and Technology Elective: Choose any course listed under General Education Goal III Area I.		3	0	3
EDP 3310	Microcomputer Operations	2	2	3
SPH 2314	Intercultural Communications	3	0	3
ECO 2306	Economics III	3	0	3
ECO 2304	**Economics I**	**3**	**0**	**3**
				30
Total Credit Hours				115

Technical Electives: With the approval of the advisor, student chooses eighteen (18) hours from technical electives listed below:

MKT 3204	Cooperative Education I	0	20	2
MKT 3205	Cooperative Education II	0	20	2
MKT 3206	Cooperative Education III	0	20	2
MKT 4305	Advanced Selling Skills	3	0	3
MKT 4325	Sales Management	3	0	3
MKT 4340	Merchandising	3	0	3
MKT 4354	Visual Merchandising	3	0	3
MKT 4385	Service Marketing	3	0	3
MKT 4386	Marketing Research	3	0	3
MKT 4387	Public Relations	3	0	3
INT 3300	Introduction to International Business	3	0	3
INT 3305	International Marketing	3	0	3
INT 3306	International Business Practice	3	0	3

+ MAT 1504, 1505 or 1514 should be taken in lieu of MAT 3325 and FIN 3314, and ENG 1505 in lieu of ENG 3405 for students who may later transfer.

* Prerequisite or corequisite is required; check course description for details.

Mechanical Drafting-See Drafting, Mechanical (V017)

Mechanical Engineering Technology (T051)

Official Program Description registered with the NC Department of Community Colleges:

The Mechanical Engineering Technology curriculum prepares technicians to assist engineers in the design and development of machinery and other mechanical equipment and parts and to perform other activities which require technical knowledge of factors such as tolerances, stresses, strains, friction, and vibration. The scope of subject matter covered prepares the graduate for employment in greatly diversified branches of the mechanical field.

The graduate may wish to work with testing experimental machinery and equipment and analyzing the results. Typical of such devices are internal combustion engines, steam turbines, jet and rocket engines, nuclear reactors, refrigeration and air conditioning equipment, missiles, spacecraft, marine equipment, motor vehicles, railroad equipment, and machines for specialized industries such as textile mills. Another specialty area that graduates may wish to pursue is that of the tool designer. Tool designers design tools and devices for the mass production of manufactured articles. They may also work with the instrumentation and design of machine tools in equipping plants of mills which require special construction to accommodate power-producing or transmitting machinery.

Degree Awarded

The Associate in Applied Science Degree – Mechanical Engineering Technology is awarded by the College upon completion of this program.

Program Accreditation

The Mechanical Engineering Technology program at CPCC is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Note

The Mechanical Engineering Technology curriculum at Central Piedmont Community College features extensive use of CAD/CAM systems in the practical applications of both

fundamental and highly specialized mechanical engineering technology principles. Students advance from basic courses to specialized mechanical engineering technology courses that furnish concentrated study in the practical application of state-of-the-art technological knowledge and skills needed in today's high technology industry, including CAD/CAM and Robotics/Automation.

Completion of the program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technical problems.

For More Information

The Mechanical Engineering Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – (704)342-6881 or the Program Director – (704)342-6553, weekdays, 8 a.m. to 5 p.m.

Admissions

- A High School Diploma or equivalent is required. High school students preparing for an engineering technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.
- Placement tests in English and mathematics determine the entry-level courses that match individual needs. Advancement Studies (9000-series) English and mathematics courses are available for students to build basic skills and knowledge.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Major and Related Course Requirements:

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
* DFT 3221	Solids Modeling and Rendering - AutoCAD	1	3	2
* DFT 3314	Mechanical CAD, AutoCAD 2-D	2	3	3
* DFT 3320	Mechanical CAD, AutoCAD 3-D	1	6	3
DFT 3404	Mechanical Drafting	2	4	4
EDP 3405	Microcomputer Programming - BASIC	3	2	4
MAC 3201	Machine Operations for Engineering Technicians	1	3	2
* MAC 3312	Computer Numerical Control Graphics Programming for Engineering Technicians	2	2	3
* MAT 3508	Engineering Technology Mathematics II	5	0	5
* MAT 3509	Engineering Technology Mathematics III	5	0	5
MEC 3101	College and Career Orientation	1	0	1
* MEC 3320	Geometric Dimensioning and Tolerance (GD & T)/ Metrology	2	3	3
* MEC 3504	Production Methods	4	2	5
* MEC 3524	Mechanics of Materials	3	6	5
* MEC 4402	Machine Design	3	3	4
* MEC 4403	Engineering Materials	3	3	4
* MEC 4404	Tool and Die Design	2	6	4
* MEC 4405	Mechanisms	3	3	4
* MEC 4425	Thermodynamics	3	3	4
* MEC 4434	Hydraulics and Pneumatics	3	3	4
* MEC 4508	Applied Mechanics	3	6	5
* MFG 3301	Engineering Economic Analysis	2	3	3
* MFG 4307	Introduction to Robotics	2	3	3
* PHY 1405	Physics II - Elastic & Thermal Properties of Matter	3	2	4
* PHY 1406	Physics III - Electricity & Magnetism	3	2	4
Related Elective		3	0	3
TECHNICAL ELECTIVE				3
				94

General Education Core Requirements:

* ENG 1504	English Composition I	5	0	5
* ENG 3405	Technical English II	4	0	4
SPH 1300	Oral Communications	3	0	3
MAT 3507	Engineering Technology Mathematics I	5	0	5
EDP 3310	Microcomputer Operation	2	2	3
* PHY 1404	Physics I: Basic Mechanics	3	2	4
	Humanities Elective: Choose any course listed under General Education Goal V.	3	0	3
	International Awareness Elective: Choose any course listed under General Education Goal VI.	3	0	3
	Self and Society Elective:Choose any course listed under General Education Goal VII.	3	0	3
				33

Total Credit Hours 127

Technical Electives:

Students may select from the following:

* DFT 3317	CAD Detailing	1	6	3
* DFT 3318	CAD Assembly	1	6	3
* ELN 4415	Industrial Programmable Controllers	3	3	4
* MAT 2514	Statistics I	5	0	5
* MEC 4284	Cooperative Work Experience I	0	20	2
* MFG 3307	Introduction to Computer Integrated Manufacturing	2	3	3
* MFG 4305	Plant Layout and Materials Handling	2	3	3
* MFG 4308	Robotics/Automation	2	3	3
* MFG 4314	Statistical Quality Control	2	3	3
* MFG 4316	Process Planning	2	3	3

Related Electives:

* EDP 3335	Microcomputer Programming MS/DOS	2	2	3
* MAC 4317	Computer Numerical Control Graphics Programming - Turning Center	2	2	3
* MAC 4318	Computer Numerical Control Graphics Programming - Machining Center	2	2	3
* MAT 2514	Statistics I	5	0	5
* MAT 2515	Statistics II	5	0	5
* MAT 3516	Introduction to Statistical Process Control	5	0	5
* MAT 4507	Engineering Technology Mathematics IV	5	0	5
* MEC 4284	Cooperative Work Experience I	0	20	2
* MEC 4285	Cooperative Work Experience II	0	20	2
MGT 4335	Production Planning and Control	3	0	3

* Prerequisite or corequisite is required; check course description for details.

Medical Assisting (V031)

Official Program Description registered with the NC Department of Community Colleges:

The Medical Assisting curriculum prepares the graduate to assist the physicians in their offices or other medical settings such as hospitals and clinics, performing those administrative and clinical duties delegated by the physician and in accord with respective state laws governing such actions and activities.

The business/administrative duties include scheduling and receiving patients, obtaining patient data, maintaining medical records, typing and medical transcription, computer operations; handling telephone calls, correspondence, reports and

manuscripts; assuming responsibility for office care, insurance matters, office accounts, fees and collections; and purchasing and maintaining supplies and equipment. The clinical duties may include preparing patients for examinations, obtaining vital signs, taking medical histories, assisting with examinations and treatments, performing routine laboratory procedures including electrocardiograms, sterilizing instruments and equipment for office procedures, and instructing patients in X-ray and laboratory examinations.

Graduates of programs accredited by the Committee on Allied Health Education (CAHEA) may apply to take the certification examination administered by the Certifying Board of the American Association of Medical Assistants. Advanced credits can be awarded toward completion of requirements for an Associate of Applied Science Degree in Medical Assisting (T-058). Individuals desiring a career in medical assisting should, if possible, take biology, mathematics and typing courses prior to entering the program. Students are admitted to the Medical Assisting program each quarter.

Diploma Awarded

A Diploma in Medical Assisting is awarded by the College upon completion of this program.Graduates of this program may apply to take the certification examination administered by the Certifying Board of the American Association of Medical Assistants. Credits from this program can be applied toward requirements for the Associate of Applied Science Degree in Medical Assisting (T058).

Note

Progression in this program is dependent on satisfying course prerequisites, corequisites, and maintaining a grade of C or better for all courses with a prefix of MED, MET, MRT, and HLT.

In addition to tuition and textbooks, this program has additional costs that include uniforms, lab coat, and a physical examination.

For More Information

The Medical Assisting program is in the Health Technologies Department. For more information, call the Program Director – (704)342-6965, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6500 or 6468.

Admissions

- Individuals desiring a career as a medical assistant should take biology, mathematics and typing courses prior to entering the program. Graduates of the existing one year Medical Assisting program at CPCC will be admitted with advanced standing. Students are admitted to the Medical Assisting Technology program each quarter.During the admissions process, students are encouraged to obtain a course sequence list from the Program Counselor.
- **Students entering this program should take courses in bold print first if at all possible.**

First Step to Enroll

Call the Health Technologies Information Specialist at (704)342-6193.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Related Course Requirements:					
MED 3304	**Medical Terminology and Vocabulary I**	**3**	**0**	**0**	**3**
MED 4302	**Ethics and Law**	**3**	**0**	**0**	**3**
MED 5204	**Orientation to Health Careers**	**2**	**0**	**0**	**2**
MED 3302	**Medical Lab Fundamentals**	**2**	**2**	**0**	**3**
*MED 3305	Medical Terminology and Vocabulary II	3	0	0	3
*MED 3404	Medical Economics	4	0	0	4
*MED 3303	Clinical Lab I	2	2	0	3
*MED 5614	Laboratory Procedures	3	6	0	6
*MED 3315	Medical Office Administration	3	0	0	3
*MED 3306	Medical Terminology and Vocabulary III	3	0	0	3
*MED 5503	Clinical Lab II	2	6	0	5
*MED 5707	Medical Office Practice	0	0	21	7
*MED 5104	Professional and Vocational Responsibilities of the M.A.	1	0	0	1
*MED 5315	Advanced Medical Office Procedures	3	0	0	3
*MET 3400	Introduction to Medical Transcription	2	4	0	4
*MED 3200	Health Insurance	2	0	0	2
SEC 3303	**Keyboarding**	**1**	**4**	**0**	**3**
*HLT 5302	Professional Interaction and the Health Worker	3	0	0	3
EDP 3310	Microcomputer Operations	2	2	0	3
*ENG 1504	English Composition I	5	0	0	5

Total Credit Hours 69

* Prerequisite or corequisite is required; check course description for details.

Medical Assisting Certificate (V031-A)

Specialization Certificate

The certificate below can be earned in the Medical Assisting (V031) program.

For More Information

For more information, call the Program Director – (704)342-6965, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6500 or 6468.

First Step to Enroll

Call the Health Technologies Information Specialist at (704)342-6195.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Medical Assisting Certificate with a specialization in Medical Reception (V031-A)					
MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
MED 3315	Medical Office Administration	3	0	0	3
MED 4302	Ethics and Law	3	0	0	3
SEC 3303	Keyboarding	1	4	0	3
HLT 5302	Professional Interactions and the Health Worker	3	0	0	3
MED 3200	Health Insurance	3	0	0	2

Total Credit Hours 17

Medical Assisting Technology (T058)

Official Program Description registered with the NC Department of Community Colleges:

The Medical Assisting curriculum prepares the graduate to be a multi-skilled practitioner qualified to perform administrative, clinical and laboratory procedures. The administrative aspects of instruction cover scheduling appointments; processing insurance accounts, medical reports, medical records, medical billing and collection; transcription and computer operations. Clinical and laboratory aspects of study include preparation of the patient for examination, assessing vital signs, assisting with examination and treatment, performing routine lab tests, using the electrocardiograph machine and administration of medication. Developing competencies in effective communication, managerial and supervisory skills, recognizing and responding to emergencies, and demonstrating adherence to ethical and legal standards of medical practices are emphasized.

Graduates may be employed in a variety of health-related services, such as physicians' offices, hospitals, clinics, industries, insurance companies, public health departments, nursing homes and extended care facilities.

Degree Awarded

The Associate in Applied Science Degree – Medical Assisting Technology is awarded by the College upon completion of this program.

Graduates of this program may apply to take the certification examination administered by the Certifying Board of the American Association of Medical Assistants.

Program Accreditation

The Medical Assisting Technology program at CPCC is accredited by the Committee on Allied Health and Accreditation (CAHEA) of the American Medical Association.

Note

Progression in this program is dependent on satisfying course prerequisites, corequisites, and maintaining a grade of C or better for all courses with a prefix of MED, MET, and MRT and HLT.

For More Information

The Medical Assisting Technology program is in the Health Technologies Department. For more information, Program Counselors can be reached by calling (704)342-6500 or 6468, and the Program Director at (704)342-6965, weekdays, 8 a.m.-5 p.m.

Admissions

- Individuals desiring a career as a medical assistant should take biology, mathematics and typing courses prior to entering the program.
- Graduates of the existing one year Medical Assisting program at CPCC will be admitted with advanced standing.
- Students are admitted to the Medical Assisting Technology program each quarter.
- During the admissions process, students are encouraged to obtain a course sequence list from the Program Counselor.
- **Students entering this program should take courses in bold print first if at all possible.**

First Step to Enroll

Contact the Health Technologies Information Specialist at (704)342-6193.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Related Course Requirements:					
MED 3304	**Medical Terminology and Vocabulary I**	**3**	**0**	**0**	**3**
MED 4302	**Ethics and Law**	**3**	**0**	**0**	**3**
MED 5204	**Orientation to Health Careers**	**2**	**0**	**0**	**2**
MED 3302	**Medical Lab Fundamentals**	**2**	**2**	**0**	**3**
* MED 3305	Medical Terminology and Vocabulary II	3	0	0	3
* MED 3404	Medical Economics	4	0	0	4
* MED 3303	Clinical Lab I	2	2	0	3
* MED 5614	Laboratory Procedures	3	6	0	6
* MED 3315	Medical Office Administration	3	0	0	3
* MED 3306	Medical Terminology and Vocabulary III	3	0	0	3
* MED 5503	Clinical Lab II	2	6	0	5
* MED 5707	Medical Office Practice	0	0	21	7
* MED 5104	Professional and Vocational Responsibilities of the M.A.	1	0	0	1
* MED 5315	Advanced Medical Office Procedures	3	0	0	3
* MED 3307	Symptomatolgy	3	0	0	3
* MED 3300	Drug Therapy	3	0	0	3
* MED 5400	Clinical Education	2	0	6	4
* MET 3400	Introduction to Medical Transcription	2	4	0	4
* MED 3200	Health Insurance	2	0	0	2
SEC 3303	**Keyboarding**	**1**	**4**	**0**	**3**
* MRT 3424	Principles of Disease	4	0	0	4
MGT 4329	Supervision of Health Care Organization	3	0	0	3
* HLT 5302	Professional Interactions and the Health Worker	3	0	0	3
					78
General Education Core Requirements:					
*** ENG 1504**	**English Composition I**	**5**	**0**	**0**	**5**
* ENG 1505	English Composition II	5	0	0	5
SPH 1301	Persuasive Speaking or				
SPH 1300	Oral Communication or				
SPH 2304	Public Speaking or				
SPH 3300	Business and Professional Speech Communication	3	0	0	3
* MAT 3325	General College Mathematics	3	0	0	3
SCI 3300	Principles of Science	3	0	0	3
EDP 3310	Microcomputer Operations	2	0	0	3
SPH 2310	Intercultural Communications	3	0	0	3
	Behavior and/or Social Science Elective: Choose any course under General Education Goal VII	5	0	0	5
					30

Total Credit Hours.....108

* Prerequisite or corequisite is required; check course description for details.

Medical Office Technology (T032)

Official Program Description registered with the NC Department of Community Colleges:

This curriculum prepares students to enter the medical secretarial profession. The medical secretary performs secretarial duties utilizing the knowledge of medical terminology and medical office and/or laboratory procedures. Skills are taught in processing medical documents using computerized functions and/or manual functions. Compiling and recording medical charts, reports, case histories, and correspondence using the typewriter or automated office equipment, scheduling appointments, and preparing and sending bills to patients are duties performed in the medical office and taught in this curriculum.

Graduates may find employment opportunities with medical supply and equipment manufacturers, medical laboratories, the offices of physicians, hospitals, and other medical care providers.

Degree Awarded

The Associate in Applied Science Degree – Medical Office Technology is awarded by the College upon completion of this program.

For More Information

The Medical Office Technology program is in the Computer and Office Information Systems Department. For more information, call the Program Director – (704)342-6781, a Program Counselor – (704)342-6426 or 6229, or the Department Office – (704)342-6549 weekdays, 9 a.m.-4 p.m.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests determine the admission to English (ENG) and mathematics (MAT) courses.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll:

Call the Welcome Center – (704)342-6719.

Major and Related Course Requirements:

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SEC 3303	**Keyboarding**	**1**	**4**	**3**
* SEC 3405	Document Formatting I	3	2	4
* SEC 3406	Document Formatting II	3	2	4
SEC 3104	**Electronic Calculators**	**0**	**2**	1
* MED 3200	Health Insurance	2	0	2
MED 3302	**Medical Lab Fundamentals**	**2**	**2**	**3**
* MET 3400	Introduction to Medical Transcription	2	4	4
MED 3304	**Medical Terminology and Vocabulary I**	**3**	**0**	**3**
* MED 3305	Medical Terminology and Vocabulary II	3	0	3
* MED 3306	Medical Terminology and Vocabulary III	3	0	3
SEC 3302	Effective Word Techniques	3	0	3
SEC 3305	Editing/Proofreading/ Reference Skills	3	0	3
SEC 4370	Records Management	3	0	3
* SEC 4429	Word Processing I	3	2	4
* SEC 4430	Word Processing II	3	2	4
* SEC 4425	Machine Transcription	3	2	4
* SEC 4305	Business Communications	3	0	3
* SEC 4416	Medical Document Production	3	2	4
* SEC 4517	General Office Procedures	5	0	5
SEC 4324	**Information Processing Concepts**	**3**	**0**	**3**
MED 4302	Medical Ethics and Law	3	0	3
BUS 3300	Human Relations I	3	0	3
MGT 4331	Administrative Office Management	3	0	3
ACC 1604	Principles of Accounting I or			
ACC 3600	General Accounting	5	2	6
* EDP 3215	Microcomputer Software – LOTUS 1-2-3	1	2	2
* SEC 4201	Cooperative Work Experience I	0	20	2
TECHNICAL ELECTIVE				3
				88

General Education Core Requirements:

* ENG 1504	English Composition I	5	0	5
* ENG 3405	Technical English II	4	0	4
SPH 1300	Oral Communications or			
SPH 3300	Business and Professional Speech Communication	3	0	3
* MAT 3325	General College Mathematics	3	0	3
SCI 3300	Principles of Science	3	0	3
EDP 3310	Microcomputer Operations	2	2	3
	Humanities Elective: Choose any course listed under General Education Goal V.	3	0	3
	International Awareness Elective: Choose any course listed under General Education Goal VI.	3	0	3
ECO 2304	Economics I	3	0	3
				30

Total Credit Hours.....118

Technical Electives:

* SEC 4435	Word Processing for Windows	3	2	4
SEC 3320	Personal Projections	3	0	3
* SEC 3414	Shorthand I	3	2	4
* SEC 4400	Typing Skill Building	3	2	4
* EDP 3324	Advanced Microcomputer Operations	1	4	3
* EDP 3335	Microcomputer Programming - MS/DOS	2	2	3
* EDP 3217	Microcomputer Software - Data Base	1	2	2
BUS 2304	Business Law I	3	0	3
* BUS 3305	Human Relations II	3	0	3
* MED 3300	Drug Therapy	3	0	3
* MED 3404	Medical Economics	3	2	4
SEC 3411	Notetaking	3	2	4

* Prerequisite or corequisite is required; check course description for details.

Medical Transcription (V127)

Official Program Description registered with the NC Department of Community Colleges:

The Medical Transcription curriculum is designed to provide the individual with the knowledge and skills for employment as a medical transcriptionist. This objective is fulfilled through study and application in transcribing medical records; transcribing correspondence from machines; filing of correspondence, records, and other data.

Certificate Awarded

A Certificate in Medical Transcription is awarded by the College upon completion of this program.

Note

Progression in this program is dependent on satisfying course prerequisites, corequisites, and maintaining a grade of C or better for all courses in the curriculum.

In addition to tuition and textbooks, there is the additional cost of a lab coat that is required during Transcription Practice I and II.

For More Information

The Medical Transcription program is in the Health Technologies Department. For more information, call the Program Director – (704)342-6965, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6500 or 6468.

Admission

- Students are admitted to the Medical Transcription Program each quarter. Acceptance is based on specific placement tests in English and reading. If test scores indicate that advancement studies courses are to be taken, acceptance into the program is dependent upon successful completion of these courses.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Health Technologies Information Specialist at (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Related Course Requirements:					
* MET 3400	Introduction to Medical Transcribing	2	4	0	4
* MET 3904	Transcription	4	10	0	9
* MET 3204	Medical Transcription as Professional	2	0	0	2
* MET 3505	Transcription Practice I	1	0	12	5
* MET 3406	Transcription Practice II	0	0	12	4
MED 3304	**Medical Terminology I**	**3**	**0**	**0**	**3**
* MED 3305	Medical Terminology II	3	0	0	3
* MED 3306	Medical Terminology III	3	0	0	3
*** SEC 3303**	**Keyboarding**	**1**	**4**	**0**	**3**
* SEC 3405	Document Formatting I	3	2	0	4
MED 3302	**Medical Lab Fundamentals**	**2**	**2**	**0**	**3**
* SEC 4429	Word Processing I	3	2	0	4
MED 3200	Health Insurance	2	0	0	2
MED 3315	**Medical Office Administration**	**3**	**0**	**0**	**3**
ENG 3515	Advanced Grammar	5	0	0	5
		37	24	24	57

Total Credit Hours.....57

* Prerequisite or corequisite is required; check course description for details.

Microcomputer Systems Technology (T192)

Official Program Description registered with the NC Department of Community Colleges:

The purpose of the Microcomputer Systems Technology curriculum is to prepare graduates for employment with business, industry, and government organizations that use or are planning to use computers to process and manage information.

Using microcomputers or other small computer systems, students will learn to apply a variety of commonly used business applications and systems software, set up microcomputer hardware and install software, develop user training programs and user documentation, evaluate and recommend hardware and software, assist users in resolving hardware and software problems, and develop control and security procedures. Students will also learn the fundamentals of microcomputer networking.

Degree Awarded

The Associate in Applied Science Degree – Microcomputer Systems Technology is awarded by the College upon completion of this program.

For More Information

The Microcomputer Systems Technology program is in the Computer and Office Information Systems Department. For more information, call the Program Director - (704)342-5922, the Department office – (704)342-6549 or a Program Counselor – (704)342-6426 or 6229, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent is required.
- Placement testing determines admission in English (ENG) and mathematics (MAT) courses.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
EDP 1500	**Computer Literacy**	**5**	**0**	**5**
* EDP 3324	Advanced Microcomputer Operations	1	4	3
* EDP 3316	Advanced LOTUS	2	2	3
* EDP 3318	Advanced dBASE	2	2	3
EDP 3335	Microcomputer Programming – MS/DOS	2	2	3
* EDP 3336	Advanced MS/DOS	2	2	3
* EDP 3337	OS/2 Operating System OR			
* EDP 3339	AIX Operating System	2	2	3
* EDP 3450	Microsoft Windows	3	2	4
* EDP 4330	User Support and Software Evaluation	1	4	3
* EDP 4419	Microcomputer Application Systems	2	4	4
EDP 3405	Microcomputer Programming – BASIC	3	2	4
* EDP 3406	Microcomputer Programming Advanced BASIC	3	2	4
* EDP 3410	C Language	3	2	4
ELN 4416	Computer Maintenance I	3	3	4
* ELN 4456	Local Area Networks	3	3	4
* ELN 4466	Advanced Local Area Networks	3	3	4
PRN 5317	Electronic Publishing I and Typesetting	2	2	3
* ACC 4414	Microcomputer Accounting	2	4	4
SEC 5200	**Computer Keyboarding**	**1**	**2**	**2**
SEC 4324	Information Processing Concepts	3	0	3
ACC 1604	Principles of Accounting I	5	2	6
* EDP 4314	Systems and Procedures	3	0	3
SEC 4370	Records Management	2	2	3
TECHNICAL ELECTIVE				5
				87
General Education Core Requirements:				
*** ENG 1504**	**English Composition I**	**5**	**0**	**5**
* ENG 3405	Technical English II	4	0	4
SPH 1300	Oral Communications	3	0	3
* MAT 3325	General College Mathematics	3	0	3
SCI 3300	Principles of Science	3	0	3
EDP 3310	**Microcomputer Operations**	**2**	**2**	**3**
Humanities Elective: Choose any course listed under General Education Goal V.		3	0	3
International Awareness Elective: Choose any course listed under General Education Goal VI.		3	0	3
ECO 2304	Economics I	3	0	3
				30

Total Credit Hours 117

Technical Electives:

With the approval of an advisor, students may select 5 hours from the following:

*EDP	3350	Introduction to Artificial Intelligence	2	2	3
EDP	3311	Microcomputer Operations - Macintosh	2	2	3
*EDP	3312	Advanced Microcomputer Operations - Macintosh	2	2	3
*EDP	4286	Cooperative Work Experience I	0	20	2
*EDP	4287	Cooperative Work Experience II	0	20	2
*EDP	3411	Advanced C Programming	3	2	4
EDP	1407	Computer Concepts and PASCAL Programming I	3	2	4
*EDP	1408	PASCAL Programming II	3	2	4
*EDP	3415	C++ Programming	3	2	4

* Prerequisite or corequisite is required; check course description for details.

Nursing, Associate Degree (T059)

Official Program Description registered with the NC Department of Community Colleges:

The Associate Degree Nursing curriculum is designed to prepare graduate to assess, analyze, plan, implement, and evaluate nursing care. The graduate is eligible to apply to take the National Council Licensure Examination (NCLEX-RN) which is required for practice as a Registered Nurse. Individuals desiring a career as Registered Nurses should take biology, algebra, and chemistry courses prior to entering the program.

The Registered Nurse may be employed in a wide variety of health care settings such as hospitals, long term care facilities, clinics, physicians' offices, industry, and community health agencies.

Degree Awarded

The Associate in Applied Science Degree – Nursing is awarded by the College upon completion of this program.

Graduates are eligible to take the National Council Licensure Examination (NCLEX-RN) which is required for practice as a Registered Nurse.

Note

In addition to tuition and textbooks, costs of this program include uniforms, lab coat, stethoscope, bandage scissors, and clamp. A physical examination including immunizations such as tetanus toxoid, Hepatitis B vaccinations, TB test, blood test (i.e., VDRL, Rubella titer, etc.) as well as registration fee for CPR certification and annual recertification, fees for application for licensure for NC State Board of Nursing & National Council Licensure Examination, as well as a fee for the nursing pin. The student must provide a certificate of health or accident insurance.

In order to progress in this program, students must earn a C or better in all curriculum courses.

For More Information

The Associate Degree Nursing program is in the Health Technologies Department. For more information, call the Program Director – (704)342-6725, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6500 or 6468.

Admissions

- Complete a CPCC application.
- Submit high school transcripts as well as any college transcripts.
- Take required placement tests.
- Attend Health Technologies Counselor orientation.
- Complete any required advancement studies classes with a C or better.
- Complete at least high school level chemistry with a C or better within the last 5 years (RTH, DEN, ADN).
- Complete the Health Technologies Core Curriculum. Core Curriculum: (MAT 1504, ENG 1504, BIO 1504 and Chemistry must be completed with a grade of C or better prior to entering the program. (Chemistry and BIO 1504 must have been completed within the last five years).
- **Students entering this program should take the courses in bold print first if at all possible.**
- Applicants must also present evidence of good physical and mental health.

First Step to Enroll

Call the Health Information Specialist at (704)342-6193.

Major and Related Course Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
***NUR**	**3305**	**Nutrition**	**3**	**0**	**0**	**3**
***NUR**	**3505**	**Fundamentals of Nursing I**	**3**	**0**	**6**	**5**
*NUR	3302	Fundamentals-Basic Skills	2	2	0	3
*NUR	3303	Pharmacology	3	0	0	3
*NUR	3216	Physical Assessment	2	0	0	2
*NUR	3714	Care of the Adult Patient I	3	0	12	7
*NUR	3815	Care of the Adult Patient II+	4	0	12	8
*NUR	4814	Maternal-Newborn Nursing+	4	0	12	8
*NUR	4815	Psychiatric Nursing+	4	0	12	8
*NUR	4816	Nursing of Children+	4	0	12	8
*NUR	4104	Nursing Perspectives	1	0	0	1
*BIO	1505	Human Anatomy and Physiology II	3	4	0	5
*NUR	4804	Advanced Care of the Adult Patient	4	0	12	8
HLT	3300	Infection Control	3	0	0	3
Elective			3	0	0	3
						75

General Education Core Requirements:

*ENG	1504	English Composition I	5	0	0	5
*ENG	1505	English Composition II	5	0	0	5
SPH	1301	Persuasive Speaking OR				
SPH	2304	Public Speaking	3	0	0	3
*MAT	1504	College Algebra I	5	0	0	5
*BIO	1504	Human Anatomy and Physiology I	3	4	0	5
EDP	3310	Microcomputer Operations	2	2	0	3
SPH	2310	Intercultural Communication	3	0	0	3
PSY	2504	General Psychology	5	0	0	5
						34

Total Credit Hours 109

* Prerequisite or corequisite is required; check course description for details.

\+ In the sequence of 3rd, 4th, 5th, and 6th quarters, students must complete NUR 3815, NUR 4814, NUR 4815, and NUR 4816 - one course of those listed "+" each quarter, 3rd through 6th.

Practical Nursing (V038)

Official Program Description registered with the NC Department of Community Colleges:

The Practical Nursing curriculum is designed to prepare the graduate to participate in assessing, planning, implementing, and evaluating nursing care. The graduate is eligible to take the NCLEX-PN which is required for practice as a Licensed Practical Nurse. Licensed Practical Nurses function under the supervision of the Registered Nurse or Physician.

Licensed Practical Nurses may be employed in hospitals, long-term care facilities, clinics, doctors' offices, industry, and community health agencies.

Individuals desiring a career in practical nursing should be encouraged to take math and science courses in high school.

Diploma Awarded

A Diploma in Practical Nursing is awarded by the College upon completion of this program.

Note

In addition to tuition and textbooks, costs of this program include uniforms, stethoscope, and bandage scissors; a physical examination including immunizations such as tetanus toxoid, Hepatitis B vaccinations, TB test, blood test (i.e., VDRL, Rubella titer, etc.); registration fee for CPR certification and annual recertification; fees for application for licensure for NC State Board of Nursing & National Council Licensure Examination; and a fee for the nursing pin. The student must provide a certificate of health or accident insurance.

Students must earn a grade of C or better in all curriculum courses in order to progress in the program.

For More Information

The Practical Nursing program is in the Health Technologies Department. For more information, call the Program Director – (704)342-6725, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6500 or 6468.

Admissions

Students wishing to apply to the Practical Nursing program must complete the following requirements prior to admission:

- Complete the CPCC Admissions Application.
- Provide a high school transcript indicating graduation, or GED, or HSC certification.
- Complete the CPCC placement tests in English, mathematics, and reading.
- Meet with a Program Counselor for orientation following placement tests.
- Applicants who are required to do so, must complete Advancement Studies courses indicated by placement tests scores with C or better before taking the core curriculum. The core curriculum consists of BIO 1504, ENG 1504, PSY 1300 and must be completed with a C or better before being accepted into the program. (BIO 1504 must be completed within 5 years of admission date.)
- Applicants must also submit evidence of good physical and mental health.
- **Students entering the program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Health Technologies Information Specialist – (704)342-6193.

		HRS CLS /WK	HRS LAB /WK	HRS CLI /WK	HRS CR/ QTR
Major and Related Course Requirements:					
***NUP 5804**	**Fundamentals of Nursing**	**6**	**0**	**6**	**8**
*NUP 5903	Care of Patients with Medical/ Surgical Conditions I	4	2	12	9
*NUP 5011	Care of Patients with Medical/ Surgical Conditions II	5	0	15	10
*NUP 5506	Pediatric Nursing	3	0	6	5
*NUP 5507	Matemal & Infant Nursing	3	0	6	5
*NUP 5304	Nursing Issues & Trends	3	0	0	3
***NUR 3302**	**Fundamentals - Basic Skills**	**2**	**2**	**0**	**3**
***NUR 3303**	**Pharmacology**	**3**	**0**	**0**	**3**
***NUR 3305**	**Nutrition**	**3**	**0**	**0**	**3**
*BIO 1504	Anatomy & Physiology I	3	4	0	5
*BIO 1505	Anatomy & Physiology II	3	4	0	5
EDP 3310	Microcomputer Operations	2	2	0	3
*ENG 1504	English Composition I	5	0	0	5
PSY 1300	The Self & Society	3	0	0	3

Total Credit Hours 70

* Prerequisite or corequisite is required; check course description for details.

Occupational Health, Safety and Environmental Technology (T153)

Official Program Description registered with the NC Department of Community Colleges:

The Occupational Health, Safety and Environmental Technology curriculum prepares individuals for employment in the fields of industrial hygiene, occupational safety and environmental concerns. The industrial hygiene area focuses on facility hygiene practices; procedures and principles such as the monitoring of dusts, fumes or mists; selection of personal protective equipment; and performing noise level monitoring. The occupational safety area focuses on hazard identification and elimination through the use of safety audit surveys. The environmental area focuses on environmental law issues, waste management techniques and regulations. The curriculum provides instruction in chemistry, health and biological sciences, law and environmental regulations, principles of safety and loss prevention, and waste management.

Graduates may find employment in private industry and local, state, or federal government agencies.

Degree Awarded

The Associate in Applied Science Degree – Occupational Health, Safety and Environmental Technology is awarded by the College upon completion of this program.

Note

TRANSFER CREDIT: Those students completing their degree in Occupational Health, Safety and Environmental Technology may transfer all credit hours to Western Carolina University, Cullowhee, North Carolina, in the curriculum of Environmental Health. Students who transfer there should begin with their junior year of study.

For more information on this transfer program, contact Randy Winston, Program Director of occupational Health, Safety and Environmental Technology at (704)342-5941.

For More Information

The Occupational Health, Safety and Environmental Technology program is in the Health Technologies Department. For more information, call the Program Director – (704)342-5941, weekdays, 8 a.m.-4:30 p.m. The Program Counselors can be reached by calling (704)342-6468 or 6500.

Admission

- A High School Diploma or equivalent is required.
- Placement tests are required for English and mathematics unless college transcripts verify that these prerequisites have been met.

First Step to Enroll

Call the Health Technologies Information Specialist - (704)342-6193.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
	HSE 3401	Introduction to Safety	4	0	4
	HSE 3311	Practical Electrical Safety	3	0	3
	HSE 4300	Ergonomics	3	0	3
	HSE 3301	Safety Engineering	3	0	3
	HSE 4401	Environmental Regulations	4	0	4
	HSE 4503	Environmental Management and Control	5	0	5
	HSE 4500	Environmental Liability	5	0	5
*	HSE 4504	Basic Industrial Hygiene	5	0	5
*	HSE 4514	Industrial Hygiene Management	5	0	5
*	HSE 4515	Industrial Hygiene Sampling Techniques	5	0	5
	BIO 1500	Biological Science	3	4	5
	ECO 2305	Economics II	3	0	3
*	CHM 1504	General Chemistry I+	3	4	5
*	CHM 1505	General Chemistry II+	3	4	5
*	BUS 3304	Business Statistics	3	0	3
	MGT 2314	Principles of Management	3	0	3
	TECHNICAL ELECTIVES		7	0	7
					73
General Education Core Requirements:					
*	ENG 1504	English Composition I	5	0	5
*	ENG 3405	Technical English II or			
*	ENG 1505	English Composition II	4	0	4
	SPH 1300	Oral Communications	3	0	3
*	MAT 1504	College Algebra I	5	0	5
	BIO 1503	Microbiology	3	4	5
	EDP 3310	Microcomputer Operations	2	2	3
		Humanities Elective: Choose any course listed under General Education Goal V.	3	0	3
		International Awareness Elective: Choose any course listed under General Education Goal VI.	3	0	3
	ECO 2304	Economics I	3	0	3
					34
Total Credit Hours					107

Technical Electives:

With the approval of an advisor, students may select seven (7) hours from the following:

	BUS 2304	Business Law	3	0	3
*	LEX 4321	Tort Law	3	0	3
*	CHM 1506	Chemistry III	3	4	5
	HED 1203	Cardiopulmonary Resuscitation	2	0	2
	FIP 3303	Fire Protection	3	0	3
*	MAT 1505	College Algebra II	5	0	5
	COE 3100	Introduction to Cooperative Education	1	0	1
	HSE 4290	Cooperative Work Experience I	0	20	2
*	HSE 4291	Cooperative Work Experience II	0	20	2

* Prerequisite or corequisite is required; check course description for details.

\+ Students may substitute CHM 1501 & CHM 1502 (Chemistry for Health Professions I & II) in lieu of CHM 1504 and CHM 1505.

Paralegal Technology (T120)

Official Program Description registered with the NC Department of Community Colleges:

The Paralegal Technology curriculum trains individuals in basic knowledge and applications of the law to work under the supervision of attorneys. The paralegal/legal assistant can support attorneys by performing routine legal tasks and assisting with more complicated and difficult legal work. Training will include legal specialty courses such as legal research, real estate, litigation preparation, as well as general subjects such as English, oral communications, mathematics, and computer skills.

Graduates of the Paralegal Technology curriculum are trained to assist an attorney or group of attorneys in many areas of the law. A paralegal/legal assistant is not able to practice law, give legal advice, or represent clients in a court of law. However, paralegals/legal assistants can represent clients in some administrative hearings. Paralegal graduates will be able to assist in work in probate matters, conduct investigations, search public records, serve and file legal documents, perform library research, and provide office management.

Employment opportunities and job descriptions vary greatly depending on whether a paralegal/legal assistant is hired by a private law firm, or a government agency, or a corporation such as a bank or insurance company.

Degree Awarded

An Associate in Applied Science Degree - Paralegal Technology is awarded by the college upon completion of this program.

Note

Good reading and writing skills are essential to the successful completion of this program.

Students should review course prerequisites carefully and consult with their Faculty Advisor or Program Counselor prior to registering for courses.

For More Information

The Paralegal Technology Program is in the Business Administration Department. For more information, call the Program Director – (704)342-6873 or the Department Head - (704)342-6646. A Program Counselor can be reached by calling (704)342-6426 or 6229.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests in English, mathematics, and reading determine placement in English (ENG) and mathematics (MAT) courses.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719

			HRS CL /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
BUS	**2304**	**Business Law I**	**3**	**0**	**3**
BUS	2305	Business Law 11	3	0	3
LEX	**3300**	**Case Analysis and Reasoning I**	**3**	**0**	**3**
*LEX	3301	Case Analysis and Reasoning II	3	0	3
*LEX	3303	Legal Research I	3	0	3
*LEX	3304	Legal Research II	3	0	3
LEX	3306	Administrative Law	3	0	3
LEX	**3310**	**Introduction to Civil Procedure**	**3**	**0**	**3**
*LEX	3320	Evidence	3	0	3
LEX	4280	Legal Ethics	2	0	2
LEX	4300	Domestic Relations Law	3	0	3
LEX	4313	Collections and Bankruptcy	3	0	3
*LEX	4314	Wills, Trusts and Probate	3	0	3
LEX	4321	Tort Law	3	0	3
*LEX	4322	Corporate Law	3	0	3
*LEX	4323	Legal Writing I	3	0	3
*LEX	4324	Legal Writing II	3	0	3
*LEX	4332	Trial Preparation and Procedures	3	0	3
*LEX	4620	Real Property Law and Title Abstracting	6	0	6
ACC	1604	Principles of Accounting or			
ACC	3500	Small Business Accounting or			
ACC	3600	General Accounting	5	0	5
SEC	**3301**	**Legal Terminology and Vocabulary**	**3**	**0**	**3**
SEC	**3303**	**Keyboarding**	**1**	**4**	**3**
SEC	3312	Introduction to Word Processing or			
*SEC	4429	Word Processing 1	2	2	3
TECHNICAL ELECTIVES			11	0	11
Free Electives			3	0	3
					87
General Education Core Requirements:					
SPH	1300	Oral Communications	3	0	3
*ENG	1504	English Composition 1	5	0	5
*ENG	1505	English Composition II+ or			
*ENG	3405	Technical English II	4	0	4
*MAT	3325	General College Mathematics+ or			
*MAT	1504	College Algebra I	3	0	3
Science and Technology Elective: Choose any course under General Education Goal III, Area I.			3	0	3
EDP	3310	Microcomputer Operations	2	2	3
Humanities Elective: Choose any course listed under General Education Goal V.			3	0	3
INT	3300	Introduction to International Business	3	0	3
POL	1502	American Politics or			
POL	2501	Political Ideologies or			
HIS	1502	American History I or			
HIS	1503	American History II or			
HIS	1520	African-American History I or			
HIS	1521	African-American History II	5	0	5
					32
Total Credit Hours					119
Technical Electives:					
Student selects eleven (11) credit hours from the list below:					
BAF	3302	Law and Banking Principles	3	0	3
BAF	4302	Real Estate Finance	3	0	3
*BUS	2306	Business Law III	3	0	3
BUS	3300	Human Relations 1	3	0	3
FIN	4334	Business Finance 1	3	0	3
INT	4307	International Business Law	3	0	3
INS	4321	Income Tax/Financial Planning	3	0	3
#LEX	4290	Cooperative Work Experience 1	0	20	2
#LEX	4291	Cooperative Work Experience II	0	20	2
LEX	4340	Qualified Pension Plans	3	0	3
LEX	4341	Workers' Compensation Law	3	0	3
MGT	3303	Small Business Management	3	0	3
MGT	4330	Supervision	3	0	3
PSC	3510	Criminal Law or			
PSC	4501	Constitutional Law	5	0	5
RES	3601	Fundamentals of Real Estate	6	0	6

* Prerequisite or corequisite is required; check course description for details.

\+ Students who may later transfer should take MAT 1504 instead of MAT 3325, and take ENG 1505 instead of ENG 3405.

\# Students may register for LEX 4290 and LEX 4291 only after consultation with a faculty coordinator. Maximum credit hours: 4. It is strongly suggested that these courses be taken toward the end of the student's program and that no other day classes be taken during the same quarter.

Paralegal Certificate (T120-A)

Overview

This program is designed for students who have a Bachelor's Degree.

Certificate Awarded

A Paralegal Certificate is awarded by the College upon completion of this program.

Note

Good reading and writing skills are essential to the successful completion of this program.

Individuals who plan to enroll as full-time students in this program should take the following courses in their first quarter: Business Law I (BUS 2304), Case Analysis and Reasoning I (LEX 3300), Introduction to Civil Procedure (LEX 3310), Legal Research I (LEX 3303), and either Evidence (LEX 3320), Tort Law (LEX 4321), Domestic Relations Law (LEX 4300), or Corporate Law (LEX 4323).

Individuals who plan to enroll part-time are advised to take the courses in the order listed above.

At the discretion of the student's faculty advisor, some prerequisites listed in the course descriptions may be waived for certificate students. Consult with your faculty advisor regarding waiver of prerequisites.

Admission

- Individuals seeking admission should submit a written request for permission to enroll in the Paralegal Certificate Program to the Paralegal Technology Program Director or the Business Administration Department Head.
- Admission to this program is subject to the discretion of the Program Director or the Department Head.

For more Information

For more information, call the Program Director – (704)342-6873.

The First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
	BUS 2304	Business Law I	3	0	3
	LEX 3300	Case Analysis and Reasoning I	3	0	3
	LEX 3303	Legal Research I	3	0	3
*	LEX 3304	Legal Research II	3	0	3
	LEX 3310	Introduction to Civil Procedure	3	0	3
	LEX 4280	Legal Ethics	2	0	2
*	LEX 4314	Wills, Trusts and Probate	3	0	3
*	LEX 4323	Legal Writing I	3	0	3
*	LEX 4324	Legal Writing II	3	0	3
*	LEX 4332	Trial Preparation and Procedures	3	0	3
*	LEX 4620	Real Property Law and Title Abstracting	6	0	6
	Electives		6	0	6
Total Credit Hours					41
Electives					
*	BUS 2305	Business Law I I	3	0	3
*	LEX 3301	Case Analysis and Reasoning II	3	0	3
	LEX 3306	Administrative Law	3	0	3
*	LEX 3320	Evidence	3	0	3
	LEX 4300	Domestic Relations Law	3	0	3
	LEX 4313	Collections and Bankruptcy	3	0	3
*	LEX 4321	Tort Law	3	0	3
	LEX 4322	Corporate Law	3	0	3
	LEX 4340	Qualified Pension Plans	3	0	3
	LEX 4341	Workers' Compensation Law	3	0	3
#	LEX 4290	Cooperative Work Experience I	0	20	2

* Students may register for LEX 4290 only after consultation with a faculty coordinator. Prerequisite or corequisite required; check course description for details.

\# Students may register for LEX 4290 only after consultation with a faculty coordinator. It is strongly suggested that this course be taken toward the end of the student's program and that no other day classes be taken during the same quarter.

NOTE: Students must demonstrate proficiency in keyboarding and word processing skills. Proficiency may be demonstrated by passing competency examinations in these areas or by sucessful completion of SEC 3404 and SEC 3312.

Physical Therapist Assistant (T062)

Official Program Description registered with the NC Department of Community Colleges:

The Physical Therapist Assistant curriculum prepares graduates to assist the professional physical therapist in a variety of direct patient care services, delegated by the supervising therapist, to restore function by alleviation or prevention of physical impairment, and other activities essential to the operation of a physical therapy service.

Employment opportunities are available in general hospitals, rehabilitation centers, extended care facilities, specialty hospitals, home health agencies, private clinics, and public school systems.

Degree Awarded

The Associate in Applied Science Degree – Physical Therapist Assistant is awarded by the College upon completion of this program.

Graduates are eligible to take the licensing examination given by the North Carolina Board of Physical Therapy Examiners.

Program Accreditation

The Physical Therapist Assistant program at CPCC is accredited by the American Physical Therapy Association.

Note

In addition to tuition and textbooks, costs of the program include uniforms, travel to clinical sites, liability and accident insurance, a fee for CPR certification and/or recertification, a fee for licensure application, and the cost of a physical examination including immunizations and blood tests. Current CPR certification is required prior to all clinical courses.

For More Information

The Physical Therapist Assistant program is in the Health Technologies Department. For more information, call the Program Director – (704)342-6505, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6500 or 6468.

Admissions

- A High School Diploma or equivalent is required.
- Complete CPCC admission application.
- CPCC Placement tests are required in English, mathematics, and reading
- A counseling/orientation meeting follows placement testing.
- Students must complete each non-PTH course in the curriculum with a grade of C or better prior to beginning PTH courses. Students who progress into PTH courses will be selected from among those who have completed the non-PTH courses with a grade of C or better in each course.
- Continued progression in the program requires a grade of C or better in each PTH course.
- A physical examination documenting the applicant's ability to complete all program requirements is also required.
- **Students entering this program should take courses in bold print first if at all possible.**

First Step to Enroll

Call the Health Technologies Information Specialist at (704)342-6193.

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Related Course Requirements:						
	***PTH 3507**	**Kinesiology I**	**3**	**4**	**0**	**5**
	***PTH 3405**	**Pathology I**	**4**	**0**	**0**	**4**
	***PTH 3605**	**Introduction to Patient Care Skills**	**2**	**8**	**0**	**6**
*	PTH 3508	Kinesiology II	3	4	0	5
*	PTH 3302	Pathology II	3	0	0	3
*	PTH 3705	Patient Care Skills II	3	8	0	7
*	PTH 3801	Clinical Education I	0	0	24	8
*	PTH 3509	Patient Care Skills III	3	4	0	5
*	PTH 3202	Physical Therapy Issues	2	0	0	2
*	PTH 4324	Psychology of Adjustment	3	0	0	3
*	PTH 4201	Community Health and Welfare	2	0	0	2
*	PTH 3706	Patient Care Skills IV	3	8	0	7
*	PTH 4606	Clinical Education II	0	0	18	6
*	PTH 4607	Clinical Education III	0	0	18	6
	MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
*	BIO 1505	Human Anatomy and Physiology II	3	4	0	5
	Elective		1	0	0	1
						78

General Education Core Requirements:

*ENG	1504	English Composition I	5	0	5
*ENG	1505	English Composition II	5	0	5
SPH	1300	Oral Communication	3	0	3
*MAT	1504	College Algebra I	5	0	5
BIO	1504	Human Anatomy and Physiology I	3	4	5
EDP	3310	Microcomputer Operations	2	2	3
		Humanities/International Awareness Elective: Choose one of the following courses:			
DRA	2414	Film Criticism or			
ENG	2510	World Literature to the 17th Century or			
ENG	2511	World Literature, 17th Century to the Present or			
HUM	1510	Writers, Revolutionaries, and Big Brother	5	0	5
PSY	2504	General Psychology	5	0	5
					36

Total Credit Hours 114

* Prerequisite or corequisite is required; check course description for details.

Postal Service Technology (T141)

Official Program Description registered with the NC Department of Community Colleges:

The Postal Service Technology curriculum is designed to provide opportunities for advancement for present and future employees of the U.S. Postal Service.

Graduates of this program will be prepared to work in a variety of positions. The course of study includes postal organization, mail processing, employee and customer services, mail delivery and collection, problem analysis, related business/management subjects, and general education courses.

Degree Awarded

An Associate in Applied Science Degree – Postal Service Technology is awarded by the College upon completion of this program.

For More Information

The Postal Service Technology program is in the Business Administration Department. For more information, call the Program Director – (704)342-6646, weekdays, 8 a.m.-4:30 p.m. Program Counselors can be reached at (704)342-6426 or 6229.

Admissions

- A High School Diploma or equivalent is required.
- A counseling / orientation appointment follows placement testing.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Course Related Requirements:					
PSM	3300	Postal Service History and Organization	3	0	3
PSM	3301	Postal Service Labor Relations	3	0	3
PSM	3304	Processing and Distribution	3	0	3
PSM	3305	Postal In-plant Support	3	0	3
PSM	4301	Postal Service Finance	3	0	3
PSM	4320	Postal Human Resources	3	0	3
PSM	4321	Postal Officer in Charge Training	3	0	3
PSM	4330	Postal Delivery and Collection	3	0	3
PSM	4331	Postal Function Four Review	3	0	3
PSM	4332	Postal Service Safety Training	3	0	3
BUS	2304	Business Law I	3	0	3
*BUS	2305	Business Law II	3	0	3
MGT	2314	Principles of Management	3	0	3
MGT	4330	Supervision	3	0	3
ACC	1604	Principles of Accounting I	5	2	6
*ACC	1605	Principles of Accounting II	5	2	6
BUS	3300	Human Relations	3	0	3
*ECO	2305	Economics II	3	0	3
*EDP	3324	Advanced Microcomputer Operations	1	4	3
FIN	3314	Business Mathematics I	3	0	3
*FIN	3315	Business Mathematics II	3	0	3
Free Electives			6	0	6
Total					75

General Education Core Requirements:

*ENG	1504	English Composition I	5	0	5
*ENG	3405	Technical English II or			
*ENG	1505	English Composition II	4	0	4
SPH	1300	Oral Communications	3	0	3
*MAT	3325	General College Mathematics+	3	0	3
EDP	3310	Microcomputer Operations	2	2	3
SCI	3300	Principles of Science	3	0	3
		Humanities: Choose any course listed under General Education Goal V.	3	0	3
*ECO	2306	Economics III or			
INT	3300	Introduction to International Business	3	0	3
ECO	2304	Economics I	3	0	3
					30

Total Credit Hours 105

* Prerequisite or corequisite is required; check course description for details.

\+ MAT 1504, 1505, or 1514 should be taken in lieu of MAT 3325, and ENG 1505 in lieu of ENG 3405 for students who may later transfer.

Postal Service Technology Certificate (T141-A)

The certificate listed below can be earned in the Postal Service Technology program (T141).

For More Information

The Postal Service Technology Certificate program is in the Business Administration Department. For more information, call the Program Director – (704)342-6646, weekdays, 8 a.m.-4:30 p.m. Program Counselor can be reached at (704)342-6426 or 6229.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS CLS /WK	HRS CR/ QTR
Postal Service Technology Certificate Specializing in Postal Service Operations (T141-A)					
Major and Course Related Requirements:					
PSM	3300	Postal Service History and Organization	3	0	3
PSM	3301	Postal Service Labor Relations	3	0	3
PSM	3304	Processing and Distribution	3	0	3
PSM	3305	Postal In-plant Support	3	0	3

PSM	4301	Postal Service Finance	3	0	3
PSM	4320	Postal Human Resources	3	0	3
PSM	4321	Postal Officer in Charge Training	3	0	3
PSM	4330	Postal Delivery and Collection	3	0	3
PSM	4331	Postal Function Four Review	3	0	3
PSM	4332	Postal Service Safety Training	3	0	3

Total Credit Hours 30

Real Estate (T127)

Official Program Description registered with the NC Department of Community Colleges:

The purposes of the Real Estate curriculum are to prepare the individual to enter the real estate industry, provide an educational program for persons directly involved in various phases of the real estate industry, and provide an opportunity for individuals wanting to fulfill professional or general interest needs. These purposes will be fulfilled through a thorough introduction to real estate principles, practices, industry ethics, finance, law, appraisal techniques, and trends.

The curriculum will provide the opportunity for an individual to enter public or private employment in real estate areas such as sales, finance, development, market analysis, valuation, and property management. Advanced real estate job opportunities are available in areas such as brokerage, management, appraising, or consulting.

Degree/Certificates Awarded

The Associate in Applied Science Degree – Real Estate is awarded by the College upon completion of this program.

A Certificate of Completion will be awarded to students who successfully complete, with an A, B, or C grade and required attendance, the sales and broker prelicensing courses.

For More Information

The Real Estate program is in the Business Administration Department. For more information, call the Program Director – (704)342-6562. If there is no answer, leave a message on voice mail. Program Counselors can be reached by calling (704)342-6426 or 6229.

Admissions

- Placement tests for reading, English and mathematics are required in order to be placed in English (ENG) and mathematics (MAT) courses.
- A counseling / orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
		Major and Course Related Requirements:			
RES	**3601**	**Fundamentals of Real Estate (Sales Prelicensing)**	**6**	**0**	**6**
*RES	4301	Real Estate Law (Broker Prelicensing)	3	0	3
*RES	4302	Real Estate Finance (Broker Prelicensing)	3	0	3
*RES	4303	Real Estate Brokerage Operations (Broker Prelicensing)	3	0	3
*RES	4311	Residential Real Estate Sales	3	0	3
*RES	4315	Governmental Land Use Controls	3	0	3
RES	4371	Real Estate Property Management	3	0	3
*RES	4391	Commercial and Industrial Real Estate	3	0	3
*RES	4393	Real Estate Investment Analysis	3	0	3
ACC	1604	Principles of Accounting I	5	2	6
*ACC	1605	Principles of Accounting II OR			
ACC	3500	Small Business Accounting	5	2	6
BUS	**1500**	**Introduction to Business**	**5**	**0**	**5**
*BUS	2304	Business Law I	3	0	3
*BUS	3300	Human Relations	3	0	3
ECO	2304	Economics I	3	0	3
FIN	**3314**	**Business Mathematics I**	**3**	**0**	**3**
INS	4294	General Insurance Part I Introduction	2	0	2
MGT	2314	Principles of Management	3	0	3
MGT	3303	Small Business Management	3	0	3
MKT	3320	Fundamentals of Selling	3	0	3
*REA	4381	Introduction to Real Estate Appraisal	3	0	3
		TECHNICAL ELECTIVE	12	0	12
					85

General Education Core Requirements:

***ENG**	**1504**	**English Composition I**	**5**	**0**	**5**
*ENG	3405	Technical English II +	4	0	4
SPH	1300	Oral Communications	3	0	3
*MAT	3325	General College Mathematics +	3	0	3
SCI	3300	Principles of Science	3	0	3
EDP	3310	Microcomputer Operations	2	2	3
SPH	2310	Intercultural Communications	3	0	3
ECO	2305	Economics II	3	0	3
*ECO	2306	Economics III	3	0	3
					30

Total Credit Hours 115

Technical Electives:

With the approval of the advisor, student chooses twelve (12) hours from technical electives listed below:

*BUS	2306	Business Law III	3	0	3
*BUS	3304	Business Statistics	3	0	3
*FIN	3315	Business Mathematics II or			
FIN	3330	Real Estate Arithmetic	3	0	3
*INS	4396	General Insurance Part III – Fire and Casualty	3	0	3
*MKT	4305	Advanced Selling Skills	3	0	3
*REA	4382	Valuation Principles and Procedures	3	0	3
*REA	4383	Applied Residential Property Valuation	3	0	3
*REA	4385	Introduction to Income Property Appraisal	3	0	3
*RES	4284	Cooperative Work Experience I	0	20	2
*RES	4395	Commercial Real Estate Finance	3	0	3

* Prerequisite or corequisite is required; check course description for details.

\+ MAT 1504, 1505 or 1514 should be taken in lieu of MAT 3325, and ENG in lieu of ENG 3405 for students who may later transfer.

Real Estate Certificate (T127-A)

The purpose of the Real Estate Certificate curriculum is to provide the prelicensing education requirements needed by real estate salespersons and brokers.

The courses required by the North Carolina Real Estate Commission for broker prelicensing which are covered in this curriculum are Fundamentals of Real Estate, Real Estate Law, Real Estate Finance, and Brokerage Operations. In addition to these courses, a math course is also required.

After successful completion of Fundamentals of Real Estate, an individual may make application with the Real Estate Com-

mission to take the prelicensing real estate salesperson examination. After successful completion of all the courses required by the Real Estate Commission, an individual may make application with the Commission to take the real estate prelicensing broker examination. Employment opportunities are available as salespersons in real estate firms or as real estate brokers in their own businesses.

Certificate Awarded

A Certificate of Completion is awarded by the College to students who sucessfully complete each course with an A, B, or C grade and required attendance..

For More Information

The Real Estate Certificate program is in the Business Administration Department. For more information, call the Program Director – (704)342-6562. If there is no answer, leave a message on voice mail. Program Counselors can be reached by calling (704)342-6426 or 6229.

Admissions

- **Students entering this program should take the course in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Course Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
RES	**3601**	**Fundamentals of Real Estate (Sales Prelicensing)**	**6**	**0**	**6**
* RES	4301	Real Estate Law (Broker Prelicensing)	3	0	3
* RES	4302	Real Estate Finance (Broker Prelicensing)	3	0	3
* RES	4303	Real Estate Brokerage Operations (Broker Prelicensing)	3	0	3
FIN	3314	Business Math I or			
* MAT	3325	General College Mathematics or			
FIN	3330	Real Estate Arithmetic	3	0	3

Total Credit Hours 18

* Prerequisite is required; check course description for details.

Real Estate Appraisal (T224)

Official Course Description registered with the NC Department of Community Colleges:

The purpose of the Real Estate Appraisal curriculum is to provide the prelicensing and the pre-certification appraisal education requirements approved by the NC Real Estate Commission.

The courses required by the NC Real Estate Commission for prelicensing as a "State Licensed" appraiser are covered in this curriculum. These courses are Introduction to Real Estate Appraisal, Valuation Principles and Procedures, and Applied Residential Property Valuation.

The courses required by the NC Real Estate Commission for pre-certification as a "State Certified" appraiser are also provided. These courses are Introduction to Income Property Appraisal, Advanced Income Capitalization Procedures, and Applied Income Property Valuation.

Certificate Awarded

A Certificate in Real Estate Appraisal is awarded by the College upon completion of this program.

A Certificate of Completion is awarded by the Department to students who successfully complete each appraisal course with an A, B, or C grade and required attendance.

Note

A good background in mathematics is very important in this curriculum. It is recommended that a student have mastered competencies found in a basic algebra course before taking Advanced Income Capitalization Procedures.

For More Information

The Real Estate Appraisal program is in the Business Administration Department. For more information, call the Program Director – (704)342-6562. If there is no answer, leave a message on voice mail. Program Counselors can be reached by calling (704)342-6426 or 6229.

Admissions

Completion of the salesman prelicensing course or a real estate sales license is required before entering this curriculum. Courses must be taken in sequence for the Certificate Program in Real Estate Appraisal.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Major and Course Related Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
* REA	4381	Introduction to Real Estate Appraisal (R-1)	3	0	3
* REA	4382	Valuation Principles and Procedures (R-2)	3	0	3
* REA	4383	Applied Residential Property Valuation (R-3)	3	0	3
* REA	4385	Introduction to Income Property Appraisal (G-1)	3	0	3
* REA	4386	Advanced Income Capitalization Procedures (G-2)	3	0	3
* REA	4387	Applied Income Property Evaluation (G-3)	3	0	3

Total Credit Hours 18

* Prerequisite is required; check course description for details.

Respiratory Care Technology (T091)

Official Program Description registered with the NC Department of Community Colleges:

Respiratory Care Technology offers career education for individuals interested in becoming a respiratory therapy technicians or respiratory therapists.

Respiratory therapists are qualified to assume primary responsibility for respiratory and cardiac care, including the supervision of technicians. Therapists make patient care decisions concerning the use of life-support systems, oxygen therapy and other breathing treatments. They also perform heart and lung studies. Graduates of the therapist program receive an associate degree.

Technicians perform tasks which include oxygen therapy, breathing treatments, and equipment maintenance. Graduates of the technician program receive a diploma.

Graduates of this program are eligible to apply for the entry-level examination, as well as the advanced practitioner examinations. These examinations are administered by the National

Board for Respiratory Care.

Graduates may be employed in hospitals, clinics, nursing homes, education, industry, and home care.

Degree Awarded

The Associate in Applied Science Degree – Respiratory Care Technology is awarded by the College upon completion of this program.

Note

In addition to the regular tuition and fees collected by the College, students enrolled in the respiratory care program are expected to submit a completed physical examination which includes Hepatitis B vaccination and TB testing. Supplies include uniforms, stethoscope, scissors, hemostats, a watch with a second hand and a calculator.

For More Information

The Respiratory Care Technology program is in the Health Technologies Department. For more information, call the Program Director – (704)342-6274, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6500 or 6468.

Admissions

In any Associate Degree Health Technologies program for which there are more applicants who have completed the pre-admission requirements than there are positions, admission points will be assigned according to the applicant's documented record.

Applicants will be admitted to the program in descending order of point totals until all positions are filled.

The pre-admission requirements are as follows:

- Complete a CPCC application.
- Submit high school transcripts as well as any college transcripts.
- Take required placement tests.
- Attend Health Technologies Counselor orientation.
- Complete any required advancement studies classes with a C or better.
- Complete at least high school level Chemistry with a C or better within the last 5 years (RTH, DEN, ADN).
- Complete the Health Technologies Core Curriculum.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Health Technologies Information Specialist at (704)342-6193.

		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Course Related Requirements:					
*RTH 3302	Introduction to Pathology and Physical Diagnosis	2	2	0	3
*RTH 3204	Pathology and Physical Diagnosis	2	0	0	2
*RTH 3305	Respiratory Pharmacology	3	0	0	3
***RTH 3601**	**Introduction to Respiratory Care**	**4**	**0**	**6**	**6**
*RTH 3602	Respiratory Care Procedures I	2	4	6	6
*RTH 3702	Respiratory Care Procedures II	2	4	9	7
*RTH 4814	Introduction to Emergency and Intensive Respiratory Care	2	2	15	8
*RTH 4415	Equipment for Continuous Ventilation	2	4	0	4
*RTH 4417	Neonatal and Pediatric Respiratory Care	1	2	6	4
*RTH 4724	Continuous Ventilation	3	2	9	7
*RTH 4504	Pulmonary Functions I	2	0	9	5
*RTH 4608	Pulmonary Functions II	2	2	9	6
*RTH 4606	Clinical Application I	2	0	12	6
*RTH 4607	Clinical Application II	2	0	12	6
****BIO 1505**	**Anatomy and Physiology II**	**3**	**4**	**0**	**5**
HLT 3300	**Infection Control**	**3**	**0**	**0**	**3**
MED 3304	**Medical Terminology and Vocabulary I**	**3**	**0**	**0**	**3**
BIO 3404	Cardiopulmonary Anatomy and Physiology	3	2	0	4
*CHM 3501	Respiratory Care Chemistry	4	2	0	5
					93
General Education Core Requirements:					
*ENG 1504	English Composition I	5	0	0	5
*ENG 3405	Technical English II or				
*ENG 1505	English Composition II +	4	0	0	4
SPH 1300	Oral Communications	3	0	0	3
*MAT 1504	College Algebra	5	0	0	5
BIO 1504	Anatomy and Physiology I	3	4	0	5
EDP 3310	Microcomputer Operations	2	2	0	3
SPH 2310	Intercultural Communications	3	0	0	3
	Self and Society Elective: Choose any course listed under General Education Goal VII.	5	0	0	5
					33

Total Credit Hours 126

* Prerequisite or corequisite is required; check course description for details.

\+ ENG 1505 should be taken in lieu of ENG 3504 for students who may later transfer.

Secretary, General Office - See General Office (T033)

Secretary, Legal (T031)

Official Program Description registered with the NC Department of Community Colleges:

The purposes of the Secretary, Legal curriculum are to prepare the individual to enter the legal secretarial profession through work in a lawyer's office in city, county, state or other government offices, to provide an educational program for individuals wanting education for upgrading (moving from one legal secretarial position to another legal secretarial position), and to provide an opportunity for individuals wanting to fulfill professional or general interest needs. These purposes will be fulfilled through skill development in the areas of legal typewriting, shorthand transcription and business machines. Through these skills, the individuals will be able to perform legal, office-related activities and through the development of personal competencies and qualities will be provided the opportunity to enter the legal secretarial profession.

Degree Awarded

The Associate in Applied Science Degree – Legal Secretary is awarded by the College upon completion of this program.

Note

Students interested in the Legal Secretary Program should consult with a Faculty Advisor or Program Counselor regarding selection of elective courses.

For More Information

The Legal Secretary program is in the Computer and Office Information Systems Department. For more information, call the Program Advisor (704)342-6856, or the Program Director at (704)342-6781, weekdays, 8 a.m.- 4 p.m. Program Counselors can be reached at (704)342 - 6426 or 6229.

Admissions

- A High School Diploma or equivalent is required
- CPCC placement tests are required in English, mathematics, and reading.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Major and Related Course Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
	SEC 3303	**Keyboarding**	**1**	**4**	**3**
*	SEC 3405	Document Formatting I	3	2	4
*	SEC 3406	Document Formatting II	3	2	4
*	SEC 4409	Legal Document Production	3	2	4
	SEC 3301	Legal Terminology and Vocabulary	3	0	3
	SEC 4324	Information Processing Concepts	3	0	3
	SEC 3305	Editing, Proofreading and Reference Skills	3	0	3
	SEC 4370	Records Management	3	0	3
*	SEC 4425	Machine Transcription	3	2	4
*	SEC 4429	Word Processing I	3	2	4
*	SEC 4430	Word Processing II	3	2	4
*	SEC 4435	Word Processing for Windows	3	2	4
	SEC 3104	Electronic Calculators	0	2	1
	SEC 3411	Notetaking	3	2	4
*	SEC 3102	Legal Secretarial Seminar	1	0	1
*	SEC 4517	General Office Procedures	5	0	5
	SEC 4201	Cooperative Work Experience I	0	20	2
	BUS 2304	Business Law I	3	0	3
*	EDP 3215	Microcomputer Software - LOTUS 1-2-3	1	2	2
*	EDP 3217	Microcomputer Software - Data Base	1	2	2
	BUS 3300	**Human Relations I**	**3**	**0**	**3**
	ACC 1604	Principles of Accounting or			
	ACC 3600	General Accounting	5	2	6
	LEX 3300	Case Analysis and Reasoning	3	0	3
	MGT 4331	Administrative Office Management	3	0	3
	ENG 3515	Essentials of Grammar	5	0	5
	TECHNICAL ELECTIVE				4
					87

General Education Core Requirements:

*	ENG 1504	English Composition I	5	0	5
*	ENG 3405	Technical English II	4	0	4
	SPH 1300	Oral Communications or			
	SPH 3300	Business and Professional Speech Communication	3	0	3
*	MAT 3325	General College Mathematics	3	0	3
		Science and Technology Elective: Choose any course listed under General Education Goal III Area I.	3	0	3
	EDP 3310	Microcomputer Operations	2	2	3
		Humanities Elective: Choose any course listed under General Education Goal V.	3	0	3
		International Awareness Elective: Choose any course listed under General Education Goal VI.	3	0	3
	ECO 2304	Economics I	3	0	3
					30

Total Credit Hours 117

Technical Electives:

*	SEC 4202	Cooperative Work Experience II	0	20	2
	SEC 4305	Business Communications	3	0	3
	LEX 3301	Case Analysis & Reasoning II	3	0	3
	LEX 3303	Legal Research I	3	0	3
	LEX 3310	Introduction to Civil Procedure	3	0	3
	LEX 4280	Legal Ethics	2	0	2
	LEX 4321	Tort Law	3	0	3

* Prerequisite or corequisite is required; check course description for details.

Surveying Technology (T125)

Official Course Description registered with the NC Department of Community Colleges:

This program is designed to provide training for technicians in the many areas of surveying. Surveyors are involved in land surveying, route surveying, photogrammetry, mapping, and other areas of land description and measurements. Nearly all construction of buildings, bridges, dams, highways, airfields, and other engineered projects requires one or more types of surveying.

Students will be trained as technicians to work with skilled professionals as instrument men, party chiefs, surveying aides, highway surveyors, mappers, and in many other surveying activities. Graduates of this program will be prepared to pursue the requirements necessary to become a registered land surveyor.

Degree Awarded

The Associate in Applied Science Degree – Surveying Technology - will be awarded by the College upon completion of this program.

For More Information

The Surveying Technology program is in the Engineering and Advanced Technology Department. For more information, call the Program Counselor – (704)342-6881, or the Program Director – (704)342-6578, weekdays, 8 a.m.-5 p.m.

Admissions

- A High School Diploma or equivalent in required.
- CPCC placement tests are required in English and mathematics. Advancement Studies (9000-series) English and mathematics courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

Note

Students who do not take program-related courses for four consecutive quarters must reenter the program under the Catalog in effect at the time of reentry.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
Major and Course Related Requirements:						
* ARC	3314	Architectural Computer Drafting I	1	0	6	3
ARC	**3334**	**Basic Architectural Drawing**	**1**	**0**	**6**	**3**
ARC	4200	Architectural Blueprint Reading	1	0	3	2
BUS	2304	Business Law I	3	0	0	3
CIV	**3101**	**Intro to Civil Engineering/ Surveying Technology**	**1**	**0**	**0**	**1**
CIV	**3306**	**Construction Materials and Methods**	**2**	**0**	**3**	**3**
* CIV	3317	Civil Drafting (CAD)	1	0	6	3
* CIV	3407	Introduction to Surveying	2	0	6	4
* CIV	3414	Statics	3	0	3	4
* CIV	4300	Codes and Contracts	2	0	3	3
* CIV	4302	Plain Concrete and Asphalt	1	0	6	3
* CIV	4305	Construction Estimates	2	0	3	3
* CIV	4307	Construction Project Management	2	0	3	3
* CIV	4314	Construction Surveying	2	0	3	3
* CIV	4315	Subdivision Planning and Design	2	0	3	3
* CIV	4319	Soils Technology	2	0	3	3
* CIV	4320	Principles of Hydraulics	2	0	3	3
* CIV	4407	Route Surveying	2	0	6	4
* CIV	4408	Boundary Surveying	2	0	6	4
* CIV	4414	Land Surveying	3	0	3	4
* CIV	4415	Topographic Mapping	3	0	3	4
* MAT	3508	Engineering Technology Math II	5	0	0	5
* MAT	3509	Engineering Technology Math III	5	0	0	5
* PHY	1406	Physics III	3	2	0	4
Technical Electives			3	0	0	3
Related Electives			4	0	0	4
						87
General Education Core Requirements:						
*** ENG**	**1504**	**English Composition I**	**5**	**0**	**0**	**5**
* ENG	3405	Technical English II	4	0	0	4
SPH	1300	Oral Communications	3	0	0	3
*** MAT**	**3507**	**Engineering Technology Math I**	**5**	**0**	**0**	**5**
* PHY	1404	Physics I – Basic Mechanics	3	2	0	4
EDP	**3310**	**Microcomputer Operations+**	**2**	**2**	**0**	**3**
Humanities Elective: Choose any course listed under General Education Goal V.			3	0	0	3
International Awareness Elective: Choose any course listed under General Education Goal VI.			3	0	0	3
Self and Society Elective: Choose any course listed under General Education Goal VII.			3	0	0	3
						33

Total Credit Hours 120

Technical Electives:

With the approval of an advisor, students may select three hours from the following:

* CIV	3314	Structural Drafting (CAD)	1	0	6	3
* CIV	3315	Structural Detailing (CAD)	1	0	6	3
* CIV	3415	Strength of Materials	3	0	3	4
* CIV	4284	Cooperative Work Experience I	0	0	20	2
* CIV	4285	Cooperative Work Experience II	0	0	20	2
* CIV	4317	Geodetic Surveying	2	0	3	3
EDP	3405	Microcomputer Programming - Basic	3	2	0	4
* MAT	4507	Engineering Technology Math IV	5	0	0	5
* PHY	1405	Physics II - Elastic and Thermal Properties of Matter	3	2	0	4
* LEX	4620	Real Property Law and Title Abstracting	6	0	0	6

Related Electives:

With the approval of an advisor, students may select four hours from the following:

* Prerequisite or corequisite is required; see course description for details.

\+ EDP 3335 may be substituted for EDP 3310.

Traffic and Transportation (T034)

Official Program Description registered with the NC Department of Community Colleges:

The Traffic and Transportation curriculum is designed to provide an educational program in the techniques of state and federal laws and regulations applicable to traffic and transportation which would prepare the individual to enter such careers as dispatcher, claims clerk, rate clerk, operational clerk, dock supervisor, loading supervisor, and moving counselor.

This curriculum enables students to develop knowledge and skills in the principles of organization and management in the traffic and transportation industry, the Interstate Commerce Act and other related traffic and transportation acts, the communication responsibilities of traffic and transportation, and the role and influence of traffic and transportation on the economy.

Degree Awarded

The Associate in Applied Science Degree – Traffic and Transportation is awarded by the College upon completion of this program.

A student may receive the following Transportation Certificates (Sales, Traffic, Operations, Physical Distribution, and Safety) upon completion of 21 credit hours of specified required courses.

For More Information

The Traffic and Transportation program is in the Business Administration Department. For more information, call the Program Director – (704)342-6284, or the Department Head - (704)342-6646, weekdays, between 8 a.m.-5 p.m. The Program Counselors can be reached by calling (704)342-6456.

Admissions

- A High School Diploma or equivalent is required.
- Placement tests in English, mathematics, and reading determine placement in English (ENG) and mathematics (MAT) courses.

First Step to Enroll

Call the Welcome Center – (704)342-6719.

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:					
TRN	3300	Transportation	3	0	3
TRN	3320	Motor Fleet Safety Management	3	0	3
TRN	3351	Traffic Management	3	0	3
TRN	3360	Transportation Pricing	3	0	3
TRN	4351	Freight Claims	3	0	3
TRN	4356	Introduction to Logistics	3	0	3
TRN	4358	Warehouse Management	3	0	3
BUS	1500	Introduction to Business	5	0	5

*	BUS 2304	Business Law I	3	0	3
	TRN 4332	Human Resource Management I	3	0	3
	MGT 4330	Supervision	3	0	3
	MGT 4356	Introduction to Materials Management	3	0	3
*	MGT 4337	Human Resource Management II	3	0	3
	ACC 1604	Principles of Accounting I	5	2	6
	BUS 3300	Human Relations I	3	0	3
	BUS 3304	Business Statistics I	3	0	3
	INS 3340	Principles of Risk and Insurance	1	4	3
	TECHNICAL ELECTIVES		15	0	15
#	TRN 4200	Cooperative Education I	0	20	2
	Free Elective		3	0	3
					76

General Education Core Requirements:

*	ENG 1504	English Composition I +	5	0	5
*	ENG 3405	Technical English II or			
*	ENG 1505	English Composition II +	4	0	4
	SPH 1300	Oral Communications	3	0	3
	FIN 3314	Business Mathematics I or			
*	MAT 3325	General College Mathematics or+			
*	MAT 1504	College Algebra	3	0	3
	SCI 3300	Principles of Science	3	0	3
	EDP 3310	Microcomputer Operations	2	2	3
	ART 1300	Introduction to Art I or			
	HUM 1300	Ascent of Man	3	0	3
	INT 3300	Introduction to International Business	3	0	3
	ECO 2304	Economics I	3	0	3
					30

Total Credit Hours 106

Technical Electives:

With the approval of the advisor, student chooses fifteen (15) hours from technical electives listed below:

*	MKT 2314	Principles of Management	3	0	3
	MKT 1304	Marketing I	3	0	3
	MKT 3320	Fundamentals of Selling	3	0	3
	MKT 4322	Purchasing	3	0	3
	MKT 4325	Sales Management	3	0	3
*	BUS 2305	Business Law II	3	0	3
	HSE 3401	Occupational Safety	4	0	4
	TRN 4375	Import Transportation Management	3	0	3
	TRN 4380	Export Transportation Management	3	0	3

* Prerequisite or corequisite is required; check course description for details.

\+ MAT 1504, 1505, or 1514 should be taken in lieu of MAT 3325, and ENG 1505 in lieu of ENG 3405 for students who may later transfer.

\# TRN 4200 (Cooperative Work Experience I) can only be registered for after consultation with Program Director - maximum credit hours: 2.

Travel and Tourism Technology (T182)

Official Program Description registered with the NC Department of Community Colleges:

The Travel and Tourism Technology curriculum is designed to train travel planners who are capable of arranging all aspects of travel for clients. Arrangements vary from simple airline reservations and ticketing to complex individual tours including all arrangements: transportation, accommodations and sightseeing. Modes of transportation used may be air, rail, steamship, motor coach or rental car. Since this is a business-related field, the curriculum includes courses to provide a practical understanding of the day-to-day operation of a travel firm.

Areas of study include the travel and tourism industry, reservations and ticketing, marketing and sales, data processing, accounting and office management.

Graduates of this program will be trained primarily for employment by travel agencies. They may also be employed by rental car companies, airlines, tour operators, hotel/motel reservation systems, or by ship, train, or bus companies.

Degree Awarded

The Associate in Applied Science Degree – Travel and Tourism Technology is awarded by the College upon completion of this program.

Note

In addition to tuition and textbooks, the estimated cost of tools and uniforms for this program is $125.

For More Information

The Travel and Tourism Technology program is in the Hospitality Technology Department. For more information, call the Program Director – (704)342-6770, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6550 or 6059.

Admissions

- A High School Diploma or equivalent is required
- CPCC placement tests are required in English, mathemat ics, and reading.
- A counseling / orientation appointment follows placement testing.
- **Students entering this program should take the courses in bold print first if at all possible.**

First Step to Enroll

Call the Welcome Center – (704)342-6719.

Major and Related Course Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
	TAT 3200	Travel and Tourism Etiquette	2	0	0	2
	TAT 3300	**Introduction to the Travel Industry**	**3**	**0**	**0**	**3**
*	TAT 3301	Agency Operations	3	0	0	3
	TAT 4301	Tourism Marketing	3	0	0	3
	TAT 4304	World Destinations and Resorts I	3	0	0	3
	TAT 4305	World Destinations and Resorts II	3	0	0	3
	TAT 4306	Group Tour Arranging/ Meeting Planning	3	0	0	3
	TAT 4307	A History of Beverages	3	0	0	3
*	TAT 4501	Hospitality Computer I	3	6	0	5
*	TAT 4502	Hospitality Computer II	3	6	0	5
*	TAT 4503	Hospitality Computer III	3	6	0	5
	ACC 3500	Small Business Accounting	5	0	0	5
	BUS 2304	Business Law I	3	0	0	3
	FSO	Food Service Elective+	2	0	6	4
	GPY 1500	Introduction to World Geography	5	0	0	5
	HED 1204	First Aid - Responding to Emergencies	1	2	0	2

HRM 3300	Introduction to Hotel/ Restaurant Management	3	0	0	3
HRM 3301	Hospitality Law	3	0	0	3
*HRM 4302	Hotel / Restaurant Management Related Problems	3	0	0	3
*HRM 4400	Restaurant Service Management	2	0	6	4
*TAT 4308	Practicum I	1	0	20	3
MGT 2314	Principles of Management	3	0	0	3
MKT 3320	Fundamentals of Selling	3	0	0	3
*MKT 4305	Advanced Selling Skills	3	0	0	3
MKT 4321	Advertising	3	0	0	3
SEC 3303	Keyboarding	1	4	0	3
					88

General Education Core Requirements:

***ENG 1504**	**English Composition**	**5**	**0**	**0**	**5**
SPH 2304	Public Speaking	3	0	0	3
*ENG 3405	Technical English II	4	0	0	4
***MAT 3325**	**General College Mathematics**	**3**	**0**	**0**	**3**
SCI 3300	Principles of Science	3	0	0	3
EDP 3310	**Microcomputer Operations**	**2**	**2**	**0**	**3**
Humanities Elective:					
choose one course under					
General Education Goal V.		**3**	**0**	**0**	**3**
INT 3300	Introduction to International Business	3	0	0	3
ECO 2304	Economics I	3	0	3	3
					30

Total Credit Hours 118

+Food Service Elective is one of the following:

FSO 4407	Baking I	2	0	6	4
FSO 4414	Garde Manger I	2	0	6	4
FSO 3504	Food Preparation I	2	0	9	5

* Prerequisite or corequisite is required; check course description for details.

Welding (V050)

Official Program Description registered with the NC Department of Community Colleges:

The Welding curriculum gives students sound understanding of the principles, methods, techniques and skills essential for suc cessful employment in the welding field and metals industry. Welders join metals by applying intense heat, and sometimes pressure, to form a permanent bond between intersection metals.

Welding offers employment in practically any industry: ship-building, automotive, aircraft, guided missiles, heavy equipment, railroads, construction, pipefitting, production jobs, job shops and many others.

Diploma Awarded

A Diploma in Welding is awarded by the College upon completion of this program.

For More Information

The Welding program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6709, or the Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached by calling (704)342-6229 or 6059.

Admissions

- Completion of a High School Diploma or equivalent is encouraged as the foundation of a career in this area.

First Step to Enroll:

Call the Welcome Center – (704)342-6719.

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
Major and Related Course Requirements:				
ENG 5500	Communications Skills	5	0	5
HSA 5200	Human Relations	2	0	2
MEC 5214	Applied Metallurgy I	1	3	2
*MEC 5215	Applied Metallurgy II	1	3	2
PHY 5304	Applied Physics I	2	2	3
PHY 5305	Applied Physics II	2	2	3
WLD 5203	Blueprint Reading for Welders I	1	2	2
WLD 5204	Blueprint Reading for Welders II	1	2	2
*WLD 5240	Introductory Pipe Welding	1	3	2
*WLD 5241	Flux Cored Arc Welding	1	3	2
*WLD 5267	Certification Practice	0	6	2
*WLD 5268	Certification Testing	2	0	2
WLD 5355	Commercial and Industrial Practices I1	6	3	
WLD 5356	Commercial and Industrial Practices II	1	6	3
WLD 5404	Pipe Welding	2	6	4
WLD 5421	Shielded Metal Arc Welding I	2	6	4
WLD 5422	Shielded Metal Arc Welding II	2	6	4
WLD 5431	Gas Tungsten Arc Welding I	2	6	4
WLD 5432	Gas Tungsten Arc Welding II	2	6	4
WLD 5433	Oxyacetylene Welding and Cutting	2	6	4
WLD 5450	Gas Metal Arc Welding	2	6	4
WLD 5401	Basic Calculations for Welders	4	0	4

Total Credit Hours 69

Related Electives:

AHR 5301	Basic Electricity	3	0	3
MAC 5201	Machine Shop Practices	1	3	2
*WLD 5205	Welding Qualification Test	0	6	2
*WLD 5260	Welding Co-Op	0	20	2

* Prerequisite or corequisite is required; check course description for details.

Welding Certificates (V050-A, B, C, D, E)

Specialization Certificates

The certificates listed below can be earned in the Welding program (V050).

For More Information

The Welding program is in the Technical Careers Department. For more information, call the Program Director – (704)342-6709, or the Department office – (704)342-6930, weekdays, 8 a.m.-5 p.m. Program Counselors can be reached at (704)342-6229 or 6059.

Admissions

Completion of a High School Diploma or equivalent is encouraged as the foundation of a career for this area.

First Step to Enroll:
Call the Welcome Center – (704)342-6719.

Welding Certificate With a Specialization in Gas Tungsten Arc Welding (V050-A)

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
	WLD 5203	Blueprint Reading for Welders I	1	2	2
*	WLD 5355	Commercial and Industrial Practices I	1	6	3
*	WLD 5356	Commercial and Industrial Practices II	1	6	3
	WLD 5431	Gas Tungsten Arc Welding I	2	6	4
*	WLD 5432	Gas Tungsten Arc Welding II	2	6	4
	WLD 5433	Oxyacetylene Welding and Cutting	2	6	4
	WLD 5401	Basic Calculations for Welders	4	0	4

Total Credit Hours 24

* Prerequisite or corequisite is required; check course description for details.

Welding Certificate With a Specialization in Basic Welding Applications (V050-B)

	WLD 5203	Blueprint Reading for Welders I	1	2	2
*	WLD 5204	Blueprint Reading for Welders II	1	2	2
	WLD 5401	Basic Calculations for Welders	4	0	4
	WLD 5421	Shielded Metal Arc Welding I	2	6	4
	WLD 5431	Gas Tungsten Arc Welding I	2	6	4
	WLD 5433	Oxyacetylene Welding and Cutting	2	6	4
*	WLD 5450	Gas Metal Arc Welding	2	6	4

Total Credit Hours 24

*Prerequisite or corequisite is required; check course description for details.

Welding Certificate With a Specialization in Gas Metal Arc Welding (V050-C)

	WLD 5203	Blueprint Reading for Welders I	1	2	2
*	WLD 5241	Flux Cored Arc Welding	1	3	2
*	WLD 5355	Commercial and Industrial Practices I	1	6	3
	WLD 5401	Basic Calculations for Welders	4	0	4
	WLD 5433	Oxyacetylene Welding and Cutting	2	6	4
*	WLD 5450	Gas Metal Arc Welding	2	6	4

Total Credit Hours 19

* Prerequisite or corequisite is required; check course description for details.

Welding Certificate With a Specialization in Maintenance Welding (V050-D)

*	WLD 5240	Introductory Pipe Welding	1	3	2
*	WLD 5355	Commercial and Industrial Practices I	1	6	3
	WLD 5421	Shielded Metal Arc Welding I	2	6	4
*	WLD 5422	Shielded Metal Arc Welding II	1	6	4
	WLD 5431	Gas Tungsten Arc Welding I	2	6	4
*	WLD 5432	Gas Tungsten Arc Welding II	2	6	4
	WLD 5433	Oxyacetylene Welding and Cutting	2	6	4

Total Credit Hours 25

* Prerequisite or corequisite is required; check course description for details.

Welding Certificate With a Specialization in Shielded Metal Arc Welding (V050-E)

	WLD 5203	Blueprint Reading for Welders I	1	2	2
*	WLD 5205	Welding Qualification Test (elective)	0	6	2
*	WLD 5240	Introductory Pipe Welding	1	3	2
*	WLD 5267	Certification Practice	0	6	2
*	WLD 5268	Certification Testing	2	0	2
*	WLD 5404	Pipe Welding (elective)	2	6	4
	WLD 5421	Shielded Metal Arc Welding I	2	6	4
*	WLD 5422	Shielded Metal Arc Welding II	2	6	4
	WLD 5433	Oxyacetylene Welding and Cutting	2	6	4

Total Credit Hours 26

* Prerequisite or corequisite is required; check course description for details.

..... *Associate in General Education Degree* .....

"It Works For Me!"

Associate in General Education Degree (G020)

Program Description

This program is designed for students who want to take courses to meet a special personal or vocational objective. Students who intend to transfer to another college should seek the A. A., A. S., or A. F. A. degrees. Students who are interested in a complete career-oriented program should seek an A. A. S. degree.

Degree Awarded

The Associate in General Education Degree is awarded by the College upon completion of this program.

Degree Requirements:

- Completion of 24 hours of General Education requirements for either the A.A. or A.A.S. degrees 24
- Electives (1000, 2000, 3000, 4000, 5000-level) courses... 72

Total Credit Hours 96

- Completion of 32 additional quarter credit hours of college credit courses if the student has earned another degree
- Completion of a minimum of 32 quarter credit hours earned at CPCC, 16 of which must be the final credit hours prior to graduation

For More Information

For more information, contact the Program Counselor at (704)342-6426, weekdays, 8 a.m.-5 p.m.

Admissions

- Official copies of high school and all other college/university transcripts must be on file in the student's folder in the Student Records Office.

First step to enroll:

Call the Welcome Center - (704)342-6729.

College Transfer Program

"It Works For Me!"

College Transfer Programs

Associate in Arts (A.A.)

Associate in Science (A.S.)

Associate in Fine Arts Degree (A.F.A.)

Central Piedmont offers three degrees designed for college transfer—the Associate in Arts (A.A.), the Associate in Science(A.S.) and the Associate in Fine Arts (A.F.A.). The A.A. degree emphasizes the liberal arts; the Associate in Science degree emphasizes science and mathematics; the Associate in Fine Arts degree includes separate concentrations in art, dance, or music.

These degree programs offer courses comparable to the freshman and sophomore levels at four-year colleges and universities. Students who want to transfer to senior institutions should work with CPCC college transfer counselors. The transfer counselors will help select the degree and the courses which will best meet the students' interests and the requirements of transfer institutions. Because course requirements vary among four-year colleges and universities, students should obtain a current catalog from the school they plan to attend.

For More Information

Program Counselors for the College Transfer program may be reached by calling (704)342-6443, 6862, or 5922.

First step to enroll:

Call the Welcome Center - (704)342-6719.

Admissions

- Students must have a High School Diploma or its equivalent.
- Students must take placement tests in English, mathematics, and reading to enroll in English and mathematics courses.

General Requirements

Students must complete a minimum of 96 quarter hours of 1000 and 2000-level courses including the required general education courses.

A minimum of 32 quarter credit hours must be earned at CPCC; 16 of them must be the final credit hours prior to graduation.

GENERAL EDUCATION GOALS

Through its general education program, Central Piedmont seeks to provide a high quality of education for its students and to ensure that graduates have the necessary knowledge, skills, and abilities to function effectively in their personal and professional lives.

Central Piedmont Community College defines general education education as acquiring and integrating the general knowledge, intellectual skills, attitudes, and experiences needed by an individual to

1. achieve a level of competency appropriate for a two-year college graduate,
2. prepare for advanced work and life-long learning, and
3. function more fully as a person and as a member of society.

The following goals identify the essence of a general education. Although some of these competencies may be achieved primarily through successful completion of particular courses, students should have the opportunity to develop and use many of these skills throughout their programs.

I. COMMUNICATIONS

Students should be able to communicate orally and in writing clearly and coherently, read with understanding, and listen perceptively, all at a level appropriate to their degrees or their occupational goals. They should understand how to locate, evaluate, and present information effectively to an appropriate audience. These goals incorporate the ability to think critically or analytically so that students can evaluate and communicate ideas.

II. MATHEMATICAL SKILLS

Students should be able to apply mathematical concepts and skills to interpret, understand, and communicate quantitative data in their personal, professional, and academic endeavors.

III. SCIENCE AND TECHNOLOGY

Students should understand the basic principles of science which govern the physical and natural world, and they should be sensitive to the impact of technology on the individual, on society, and on the natural environment. Students should acquire the skills to use computers in their personal and professional lives.

IV. PROBLEM SOLVING AND CRITICAL THINKING

Students should develop critical thinking skills that will allow them to analyze a variety of problems, select or create possible solutions, assess the impact of the solutions, and make informed judgments.

V. HUMANITIES

Students should develop an awareness of the humanities to broaden their understanding of their own culture and the cultures of other places and times. They should also have the opportunity to recognize and develop their own creative skills.

VI. INTERNATIONAL AWARENESS

Students should recognize the interdependence of all the world's peoples and demonstrate an awareness and understanding of the similarities and differences among the world's societies and cultures.

VII. SELF AND SOCIETY

Students should demonstrate an increased awareness of their own values, beliefs, and behaviors as well as the values, beliefs and behaviors of others. Through knowledge and experience, students should develop their abilities to work as members of groups and work with people who are different from themselves. Students should also have an increased understanding of American culture and society so that they are able to participate more effectively in the political and economic life of the United States. Students should improve their abilities to make decisions about education and employment based on their skills and interests and on the needs of the community.

VIII. HEALTH AND PHYSICAL EDUCATION

Central Piedmont Community College believes that college transfer students should have opportunities to participate in physical fitness activities and acquire information and experiences which will promote their physical, mental, and emotional health.

College Transfer Degree Requirements

The following are the degree requirements for all college transfer students. In special cases, the Dean of Arts and Sciences may

allow students to substitute other courses to meet these requirements.

A bullet (•) denotes those courses which are most commonly included in general education programs at transfer institutions.

The Associate in Arts Degree — A.A. (C011)

The Associate in Arts Degree is awarded for liberal arts study, leading to majors in such areas as history, political science, psychology, sociology, and English.

GENERAL EDUCATION GOALS - COURSE REQUIREMENTS

I. Communications

Students must complete 13 hours of these required English and speech courses:

- ENG 1504 English Composition I
- ENG 1505 English Composition II
- SPH 1300 Oral Communications or
- SPH 1301 Persuasive Speaking

The College recommends that students take an additional 3 hours of 1000- or 2000-level speech to enhance course transfer to a four-year college.

II. Mathematical Skills

Students must complete 10 hours of mathematics and may choose either of these two course sequences:

- MAT 1504 and 1505 College Algebra I, II
- MAT 1514 and 1515 Precalculus Mathematics I, II

III. Science and Technology

A. Students must complete at least 10 hours of laboratory science courses chosen from this list. Colleges and universities usually expect students to complete a sequence of courses in one discipline.

- BIO 1500 Biological Science
- BIO 1501 General Botany
- BIO 1502 General Zoology

CHM 1500 Introductory Chemistry

- CHM 1504 General Chemistry I
- CHM 1505 General Chemistry II
- CHM 1506 General Chemistry III
- GEL 1604 Physical Geology

GEL 2605 Historical Geology

- GEO 1614 Introduction to Physical Geography
- PHY 1404 Physics I—Basic Mechanics
- PHY 1405 Physics II—Elastic and Thermal Properties of Matter
- PHY 1406 Physics III—Electricity and Magnetism or

PHY 2504 General Physics I—Mechanics
PHY 2505 General Physics II—Fluid Mechanics, Heat and Waves
PHY 2506 General Physics III—Electricity and Magnetism

B. Students must complete

- EDP 1550 Microcomputer Concepts and Applications or demonstrate computer competencies through other coursework or testing. The department head for Computer and Office Information Systems will determine equivalent competency.

IV. Problem Solving and Critical Thinking

Problem solving and critical thinking are incorporated throughout the curriculum at Central Piedmont.

V. Humanities

Students must complete a minimum of 14 hours of humanities and must complete courses from at least two of these four groups:

A. Modern Languages

- FRE 2600 and 2601 Intermediate French I, II
- GER 2600 and 2601 Intermediate German I, II
- SPA 2600 and 2601 Intermediate Spanish I, II

B. Literature and Philosophy

ENG 1334 The Novel

- ENG 2504 British Literature, 1300-1800
- ENG 2505 British Literature, 1800-Present
- ENG 2514 American Literature, 1800-1900
- ENG 2515 Modern American Literature
- ENG 2510 World Literature to 1700
- ENG 2511 World Literature, 1700 to Present
- PHI 1500 Philosophy

C. The Arts

ART 1300 and 1301 Introduction to Art I, II
ART 1310 and 1311 History of Art I, II or
ART 1311 and 1312 History of Art II, III
DAN 1384 and 1385 Dance History I, II or
DAN 1385 and 1386 Dance History II, III
DRA 1500 Introduction to Drama
DRA 2414 Film Criticism
MUS 1314 and 1315 Music Appreciation I, II

D. Humanities

HUM 1319 Mythology
HUM 1510 Writers and Revolutionaries

- HUM 1500 Humanities—Classical to Medieval
- HUM 1501 Humanities—Renaissance to Present

VI. International Awareness

Students must complete at least one of the following courses. Some of these courses may also meet other general education goals.

ANT 1502 General Anthropology
DAN 1384 Dance History I
DAN 1385 Dance History II
DRA 2414 Film Criticism

- ECO 2306 Economics III
- ENG 2510 World Literature to 1700
- ENG 2511 World Literature, 1700 to Present

GPY 1500 Introduction to World Geography
HED 1300 Introduction to Health Education

- HIS 1500 World Civilization I
- HIS 1501 World Civilization II

MUS 1314 Music Appreciation I
MUS 1315 Music Appreciation II
HUM 1510 Writers and Revolutionaries
POL 1510 Comparative Politics
POL 1511 International Relations
POL 2501 Political Ideologies
SPH 2310 Intercultural Communications

VII. Self and Society

Students must complete a minimum of 14 hours of courses in the social sciences. Students must complete at least one course from group one and at least one from group two.

1. History and Political Science
   - HIS 1500 World Civilization I
   - HIS 1501 World Civilization II
   - HIS 1502 American History I

- HIS 1503 American History II
  HIS 1504 Recent American History
  HIS 1520 African-American History I
  HIS 1521 African-American History II
  HIS 2500 North Carolina History
- POL 1502 American Politics
  POL 2501 Political Ideologies

2. Economics, Psychology and Sociology
   - ECO 2304 Economics I
   - ECO 2305 Economics II
   - ECO 2306 Economics III
     PSY 1500 Psychology of Adjustment
   - PSY 2504 General Psychology
     PSY 2505 Human Development
     SOC 1500 Sociology of the Family
   - SOC 2514 Introduction to Sociology
     SOC 2515 Social Problems

VIII. Health and Physical Education

Students must complete 3 hours of Health Education (HED) and/or Health, Physical Education and Recreation (HPE) courses. The list of course offerings is found in the course description section of the catalog.

ELECTIVES

Students must complete the 96-credit-hour requirement with electives chosen from among the 1000- and 2000-level courses.

ADDITIONAL OPPORTUNITIES

Cooperative Education

When approved by the Faculty Co-op Coordinator, a maximum of 6 Cooperative Education work experience credits may be counted toward the degree.

Educational and Career Planning

Educational and career counseling are available to all students at Central Piedmont through Counseling and Advisement Services. Students who desire more extensive educational and occupational planning may take any or all of these courses as electives:

GEN 1201 Career Exploration
GEN 1370 Introduction to College Life

Service Learning

Students who wish to develop their abilities to work as members of groups or work with people who are different from themselves and, at the same time, explore career opportunities and increase their understanding of American society may take advantage of service-learning opportunities by taking the following courses as electives:

GEN 1290 Service-Learning and Contemporary Issues
GEN 1291 Service-Learning and Leadership

The Associate in Science Degree—A.S. (C050)

The Associate in Science degree is awarded for study leading to majors in such areas as science, mathematics, and engineering.

GENERAL EDUCATION GOALS - COURSE REQUIREMENTS

I. Communications

Students must complete 13 hours of these required English and speech courses:

- ENG 1504 English Composition I
- ENG 1505 English Composition II
- SPH 1300 Oral Communications or
- SPH 1301 Persuasive Speaking

The College recommends that students take an additional 3 hours of 1000- or 2000-level speech to enhance course transfer to a four-year college.

II. Mathematical Skills

Students must complete

- MAT 1514 and 1515 Precalculus Mathematics I, II and at least two more courses chosen from this list:
- MAT 1524 Analytic Geometry and Calculus I
- MAT 2504 Analytic Geometry and Calculus II
- MAT 2505 Analytic Geometry and Calculus III
- MAT 2506 Analytic Geometry and Calculus IV
- MAT 2508 Ordinary Differential Equations

III. Science and Technology

A. Students must complete at least 24 hours of laboratory science courses chosen from this list. These hours must include a course sequence in one of the disciplines.

- BIO 1500 Biological Science
- BIO 1501 General Botany
- BIO 1502 General Zoology

CHM 1500 Introduction to Chemistry

- CHM 1504 General Chemistry I
- CHM 1505 General Chemistry II
- CHM 1506 General Chemistry III

- GEL 1604 Physical Geology
  GEL 2605 Historical Geology
- GEO 1614 Introduction to Physical Geography
- PHY 1404 Physics I—Basic Mechanics
- PHY 1405 Physics II—Elastic and Thermal Properties of Matter
- PHY 1406 Physics III—Electricity and Magnetism
- PHY 1407 Physics IV—Optics and Modern Physics (optional) or
- PHY 2504 General Physics I—Mechanics
- PHY 2505 General Physics II—Fluid Mechanics, Heat and Waves
- PHY 2506 General Physics III—Electricity and Magnetism
- PHY 2507 General Physics IV—Optics and Modern Physics (optional)

B. Students must complete one of these computer information systems courses or demonstrate computer competencies through other coursework or testing. The department head for Computer and Office Information Systems will determine equivalent competency.

- EDP 1550 Microcomputer Concepts and Applications
  EDP 1404 FORTRAN Programming I
  EDP 1405 FORTRAN Programming II
  EDP 1407 Computer Concepts and PASCAL Programming I
  EDP 1408 PASCAL Programming II
  EDP 2306 Computer Programming I (Business)
  EDP 2307 Computer Programming II (Business)
  EDP 2525 Introduction to Business Computing

IV. Problem Solving and Critical Thinking

Problem solving and critical thinking are incorporated throughout the curriculum at Central Piedmont.

V. Humanities

Students must complete a minimum of 6 hours of humanities selected from this list:

Modern Languages

•FRE 2600 and 2601 Intermediate French I, II
•GER 2600 and 2601 Intermediate German I, II
•SPA 2600 and 2601 Intermediate Spanish I, II

Literature and Philosophy

ENG 1334 The Novel
•ENG 2504 British Literature, 1300-1800
•ENG 2505 British Literature, 1800-Present
•ENG 2514 American Literature, 1800-1900
•ENG 2515 Modern American Literature
•ENG 2510 World Literature to 1700
•ENG 2511 World Literature, 1700 to Present
•PHI 1500 Philosophy

The Arts

ART 1300 and 1301 Introduction to Art I, II
ART 1310 and 1311 History of Art I, II or
ART 1311 and 1312 History of Art II, III
DAN 1384 and 1385 Dance History I, II or
DAN 1385 and 1386 Dance History II, III
DRA 1500 Introduction to Drama
DRA 2414 Film Criticism
MUS 1314 and 1315 Music Appreciation I, II

Humanities

HUM 1319 Mythology
HUM 1510 Writers and Revolutionaries
•HUM 1500 Humanities—Classical to Medieval
•HUM 1501 Humanities—Renaissance to Present

VI. International Awareness

Students must complete at least one of the following courses. Some of these courses also meet other general education goals.

ANT 1502 General Anthropology
DAN 1384 Dance History I
DAN 1385 Dance History II
DRA 2414 Film Criticism
•ECO 2306 Economics III
•ENG 2510 World Literature to 1700
•ENG 2511 World Literature, 1700 to Present
GPY 1500 Introduction to World Geography
HED 1300 Introduction to Health Education
•HIS 1500 World Civilization I
•HIS 1501 World Civilization II
MUS 1314 Music Appreciation I
MUS 1315 Music Appreciation II
HUM 1510 Writers and Revolutionaries
POL 1510 Comparative Politics
POL 1511 International Relations
POL 2501 Political Ideologies
SPH 2310 Intercultural Communications

VII. Self and Society

Students must complete 10 hours of courses in the social sciences. Students must complete one course from group one and one from group two:

1. History and Political Science

•HIS 1500 World Civilization I
•HIS 1501 World Civilization II
•HIS 1502 American History I
•HIS 1503 American History II
HIS 1504 Recent American History
HIS 1520 African-American History I
HIS 1521 African-American History II
HIS 2500 North Carolina History
•POL 1502 American Politics
POL 2501 Political Ideologies

2. Economics, Psychology and Sociology

•ECO 2304 Economics I
•ECO 2305 Economics II
•ECO 2306 Economics III
PSY 1500 Psychology of Adjustment
•PSY 2504 General Psychology
SOC 1500 Sociology of the Family
•SOC 2514 Introduction to Sociology
SOC 2515 Social Problems

VIII. Health and Physical Education

Students must complete three credit hours of Health Education (HED) and/or Health, Physical Education and Recreation (HPE) courses. The list of course offerings is found in the course description section of the catalog.

ELECTIVES

Students must complete the 96-credit-hour requirement with electives chosen from among the 1000- and 2000-level courses.

ADDITIONAL OPPORTUNITIES

Cooperative Education

When approved by the Faculty Co-Op Coordinator, a maximum of 6 Cooperative Education work experience credits may be counted toward the degree.

Educational and Career Planning

Educational and career counseling are available to all students at Central Piedmont through Counseling and Advisement Services. Students who desire more extensive educational and occupational planning may take any or all of these courses as electives:

GEN 1201 Career Exploration
GEN 1370 Introduction to College Life

Service Learning

Students who wish to develop their abilities to work as members of groups or work with people who are different from themselves and, at the same time, explore career opportunities and increase their understanding of American society may take advantage of service-learning opportunities by taking the following courses as electives:

GEN 1290 Service-Learning and Contemporary Issues
GEN 1291 Service-Learning and Leadership

Associate in Fine Arts Degree—A.F.A. (CO11)

GENERAL EDUCATION GOALS FOR ALL A.F.A. DEGREES - COURSE REQUIREMENTS

I. Communications

Students must complete 13 hours of these required English and speech courses:

•ENG 1504 English Composition I
•ENG 1505 English Composition II

•SPH 1300 Oral Communications or
•SPH 1301 Persuasive Speaking

The College recommends that students take an additional 3 hours of 1000- or 2000-level speech to enhance course transfer to a four-year college.

II. Mathematical Skills

Students must complete 5 hours of mathematics. Students are required to take either

•MAT 1504 College Algebra I or
•MAT 1514 Precalculus Mathematics I

The College recommends that students take additional hours to enhance course transfer to a four-year college.

III. Science and Technology

A. Students must complete at least 5 hours of laboratory science courses chosen from this list. College transfer counselors and faculty advisors will help students select the recommended courses for their concentrations.

•BIO 1500 Biological Science
•BIO 1501 General Botany
•BIO 1502 General Zoology
BIO 1504 Human Anatomy and Physiology I
CHM 1500 Introductory Chemistry
•CHM 1504 General Chemistry I
•GEL 1604 Physical Geology
•GEO 1614 Introduction to Physical Geography

B. Students must complete

•EDP 1550 Microcomputer Concepts and Applications or demonstrate computer competencies through other coursework or testing. The department head for Computer and Office Information Systems will determine equivalent competency.

IV. Problem Solving and Critical Thinking

Problem solving and critical thinking are incorporated throughout the curriculum at Central Piedmont.

V. Humanities

Students must complete 12 hours of humanities and must select at least 6 credit hours from outside the major area of concentration. College transfer counselors and faculty advisors will help students select the recommended courses for their concentrations.

A. Modern Languages

• FRE 2600 and 2601 Intermediate French I, II
• GER 2600 and 2601 Intermediate German I, II
• SPA 2600 and 2601 Intermediate Spanish I, II

B. Literature and Philosophy

ENG 1334 The Novel
• ENG 2504 British Literature, 1300-1800
• ENG 2505 British Literature, 1800 to Present
• ENG 2514 American Literature, 1800-1900
• ENG 2515 Modern American Literature
• ENG 2510 World Literature to 1700
• ENG 2511 World Literature, 1700 to Present
• PHI 1500 Philosophy

C. The Arts

ART 1300 and 1301 Introduction to Art I, II
ART 1310 and 1311 History of Art I, II or
ART 1311 and 1312 History of Art II, III
DAN 1384 and 1385 Dance History I, II or
DAN 1385 and 1386 Dance History II, III
DRA 1500 Introduction to Drama
DRA 2414 Film Criticism
MUS 1314 and 1315 Music Appreciation I, II

D. Humanities

HUM 1319 Mythology
HUM 1510 Writers and Revolutionaries
•HUM 1500 Humanities—Classical to Medieval
•HUM 1501 Humanities—Renaissance to Present

VI. International Awareness

Students must complete at least one of the following courses. Some of these courses may also meet other general education goals.

ANT 1502 General Anthropology
DAN 1384 Dance History I
DAN 1385 Dance History II
DRA 2414 Film Criticism
•ECO 2306 Economics III
•ENG 2510 World Literature to 1700
•ENG 2511 World Literature, 1700 to Present
GPY 1500 Introduction to World Geography
HED 1300 Introduction to Health Education
•HIS 1500 World Civilization I
•HIS 1501 World Civilization II
MUS 1314 Music Appreciation I
MUS 1315 Music Appreciation II
HUM 1510 Writers and Revolutionaries
POL 1510 Comparative Politics
POL 1511 International Relations
POL 2501 Political Ideologies
SPH 2310 Intercultural Communications

VII. Self and Society

Students must complete 10 hours of social science courses chosen from this list. Students must complete at least one course from group one and one from group two:

1. History and Political Science

•HIS 1500 World Civilization I
•HIS 1501 World Civilization II
•HIS 1502 American History I
•HIS 1503 American History II
HIS 1504 Recent American History
HIS 1520 African-American History I
HIS 1521 African-American History II
HIS 2500 North Carolina History
•POL 1502 American Politics
POL 2501 Political Ideologies

2. Economics, Psychology and Sociology

•ECO 2304 Economics I
•ECO 2305 Economics II
•ECO 2306 Economics III
PSY 1500 Psychology of Adjustment
•PSY 2504 General Psychology
SOC 1500 Sociology of the Family
•SOC 2514 Introduction to Sociology
SOC 2515 Social Problems

VIII. Health and Physical Education

Students must complete three credit hours of Health Education (HED) and/or Health, Physical Education and Recreation (HPE) courses. The list of course offerings is found in the course description section of the catalog.

ELECTIVES

Students must complete the degree hour requirement with electives chosen from among the 1000- and 2000-level courses.

ADDITIONAL OPPORTUNITIES

Cooperative Education

When approved by the Faculty Co-Op Coordinator, a maximum of 6 Cooperative Education work experience credits may be counted toward the degree.

Educational and Career Planning

Educational and career counseling are available to all students at Central Piedmont through Counseling and Advisement Services. Students who desire more extensive educational and occupational planning may take any or all of these courses as electives:

GEN 1201 Career Exploration
GEN 1370 Introduction to College Life

Service Learning

Students who wish to develop their abilities to work as members of groups or work with people who are different from themselves and, at the same time, explore career opportunities and increase their understanding of American society may take advantage of service-learning opportunities by taking the following courses as electives:

GEN 1290 Service-Learning and Contemporary Issues
GEN 1291 Service-Learning and Leadership

THE FOLLOWING ARE SPECIFIC REQUIREMENTS FOR MAJOR AREAS OF CONCENTRATION IN THE ASSOCIATE OF FINE ARTS DEGREE:

Major area of concentration: DANCE (CO38)

Dancers are required to audition for acceptance into the Dance program.

Students in this area are required to take:

BIO 1504, BIO 1505—Human Anatomy and Physiology I, II
DAN 1384, DAN 1385, DAN 1386—Dance History I,II,III
DAN 2184, DAN 2185, DAN 2186—Intermediate Modern Dance I, II, III (3 Credits)
DAN 2187, DAN 2188, DAN 2189—Advanced Modern Dance I, II, III (3 credits)
DAN 2194, DAN 2195, DAN 2196—Intermediate Ballet I, II, III (3 credits)
DAN 2197, DAN 2198, DAN 2199—Advanced Ballet I, II, III (3 credits)
DAN 2284, DAN 2285, DAN 2286—Choreography I, II, III
DAN 2388 —Dance Production (9 credits)
MUS 1320, MUS 1321—Music for Dancers I, II
Dance Technique Electives
General Education Requirements

Major area of concentration: MUSIC (CO15)

Students in this area are required to take:

MUS 1154, MUS 1155, MUS 1156—Class Piano I, II, III
MUS 1404, MUS 1405, MUS 1406—Music Theory I, II, III
MUS 1100, MUS 1107, MUS 1117, MUS 1127, MUS 1128, MUS 1151, MUS 1152, MUS 1153, MUS 2100, or MUS 2158—Ensemble (for a total of 6 credits)
MUS 2404, MUS 2405, MUS 2406—History and Literature of Music I, II, III
MUS 2407, MUS 2408, MUS 2409—Advanced Music Theory I, II, III
Applied Music for a total of 9 credits
Advanced Applied Music for a total of 9 credits
General Education Requirements

Major area of concentration: ART (CO03)

Students are required to take:

ART 1310, ART 1311, ART 1312—History of Art I, II, III
ART 1404, ART 1405, ART 1406—Drawing I, II, III
ART 1424, ART 1425, ART 1426—Design I, II, III
Twelve hours in specific major area of concentration
General Education Requirements

College Transfer Courses

The list of courses below is arranged alphabetically by subject.

Anthropology

ANT 1502 General Anthropology

Art

ART 1200 Fibre Dyes
ART 1230 Portrait Photograghy
ART 1300 Introduction to Art I
ART 1301 Introduction to Art II
ART 1304 Printmaking I
ART 1305 Printmaking II
ART 1310 History of Art I
ART 1311 History of Art II
ART 1312 History of Art III
ART 1323 Basic Woodcarving
ART 1327 Sculpture I
ART 1328 Sculpture II
ART 1329 Sculpture III
ART 1331 Cartooning and Caricaturing
ART 1332 Photographing Nature
ART 1334 Painting I
ART 1335 Painting II
ART 1336 Painting III
ART 1337 Portrait Painting I
ART 1338 Portrait Painting II
ART 1339 Portrait Painting III
ART 1340 Stained Glass I
ART 1341 Stained Glass II
ART 1344 Weaving I
ART 1345 Weaving II
ART 1346 Weaving III
ART 1347 Weaving IV
ART 1348 Watercolor I
ART 1349 Watercolor II
ART 1356 Furniture Design I
ART 1357 Furniture Design II
ART 1358 Furniture Design III
ART 1360 Raku
ART 1364 Ceramics I
ART 1365 Ceramics II
ART 1366 Ceramics III
ART 1374 Jewelry I
ART 1375 Jewelry II
ART 1376 Jewelry III
ART 1384 Basic Camera Techniques
ART 1385 Photo Lab Processes I
ART 1386 Photo Lab Processes II

ART 1389 Color Printing I
ART 1390 Color Printing II
ART 1392 Advanced Camera Techniques
ART 1404 General Drawing I
ART 1405 General Drawing II
ART 1406 General Drawing III
ART 1407 Figure Drawing
ART 1424 Design I
ART 1425 Design II
ART 1426 Design III
ART 1434 Airbrush
ART 2101 Special Topics I
ART 2201 Special Topics II
ART 2302 Special Topics III
ART 2322 Surface Design for Textiles

Biology

BIO 1500 Biological Science
BIO 1501 General Botany
BIO 1502 General Zoology
BIO 1503 Microbiology
BIO 1504 Human Anatomy and Physiology I
BIO 1505 Human Anatomy and Physiology II
BIO 2134-2534 Selected Topics in Biology
BIO 2300 Genetics
BIO 2304 Human Nutrition
BIO 2308 Nutrition and the Young Child
BIO 2500 Introduction to Entomology
BIO 2501 Ornithology
GEN 1140 Field Biology
GEN 1141 Introduction to Nature Photography
GEN 1144 Ecology by Canoe
GEN 1148 Field Identification of Insects
GEN 1149 Field Ornithology

Business

BUS 1500 Introduction to Business
BUS 2304 Business Law I
BUS 2305 Business Law II
BUS 2306 Business Law III

Careers

GEN 1201 Career Exploration
GEN 1290 Service-Learning and Contemporary Issues
GEN 1291 Service-Learning Leadership
GEN 1370 Introduction to College Life

Chemistry

CHM 1500 Introduction to Chemistry
CHM 1501 Chemistry for Health Professions I
CHM 1502 Chemistry for Health Professions II
CHM 1504 General Chemistry I
CHM 1505 General Chemistry II
CHM 1506 General Chemistry III
CHM 2124-2524 Special Problems
CHM 24140 Introduction to Organic Chemistry
CHM 2604 Quantitative Chemical Analysis
CHM 2614 Organic Chemistry I
CHM 2615 Organic Chemistry II

Computers

EDP 1404 Computer Concepts and FORTRAN Programming I
EDP 1405 FORTRAN Programming II
EDP 1407 Computer Concepts and PASCAL Programming I
EDP 1408 PASCAL Programming II
EDP 1500 Computer Literacy
EDP 1550 Microcomputer Concepts and Applications
EDP 2306 Computer Programming I (Business)
EDP 2307 Computer Programming II (Business)
EDP 2525 Introduction to Business Computing

Dance

DAN 1154 Tap Dance I
DAN 1155 Tap Dance II
DAN 1156 Tap Dance III
DAN 1157 Jazz Dance I
DAN 1158 Jazz Dance II
DAN 1159 Jazz Dance III
DAN 1184 Modern Dance I
DAN 1185 Modern Dance II
DAN 1186 Modern Dance III
DAN 1194 Ballet I
DAN 1195 Ballet II
DAN 1196 Ballet III
DAN 1197 Ballet Pointe Work I
DAN 1280 Dance for Musical Theatre
DAN 1290 Dance Sources
DAN 1384 Dance History I
DAN 1385 Dance History II
DAN 1386 Dance History III
DAN 2184 Intermediate Modern Dance I
DAN 2185 Intermediate Modern Dance II
DAN 2186 Intermediate Modern Dance III
DAN 2187 Advanced Modern Dance I
DAN 2188 Advanced Modern Dance II
DAN 2189 Advanced Modern Dance III
DAN 2194 Intermediate Ballet I
DAN 2195 Intermediate Ballet II
DAN 2196 Intermediate Ballet III
DAN 2197 Advanced Ballet I
DAN 2198 Advanced Ballet II
DAN 2199 Advanced Ballet III
DAN 2284 Choreography I
DAN 2285 Choreography II
DAN 2286 Choreography III
DAN 2384 Dance Seminar
DAN 2388 Dance Production I

Drama

DRA 1301 Stagecraft
DRA 1303 Acting
DRA 1304 Advanced Acting
DRA 1310 Play Production-One Acts
DRA 1312 Play Production-Musical
DRA 1315 Play Production-Drama
DRA 1316 Advanced Play Production-Drama
DRA 1317 Play Production-Comedy
DRA 1318 Advanced Play Production-Comedy
DRA 1320 Teleplay Production-Drama
DRA 1321 Teleplay Production-Situation Comedy
DRA 1322 Teleplay Production-Action/Adventure
DRA 1323 Teleplay Production-Variety
DRA 1500 Introduction to Drama
DRA 1501 Introduction to Broadcasting
DRA 2204 Special Problems in Drama
DRA 2303 Acting for the Camera
DRA 2306 Advanced Acting for the Camera
DRA 2312 Advanced Play Production-Musical
DRA 2414 Film Criticism

Economics

ECO 2304 Economics I

ECO 2305 Economics II
ECO 2306 Economics III

English

ENG 1300 News Writing
ENG 1325 Advanced Creative Writing
ENG 1333 Science Fiction
ENG 1334 The Novel
ENG 1335 Classic Fairy Tales
ENG 1504 English Composition I
ENG 1505 English Composition II
ENG 1524 Creative Writing
ENG 2308 Report Writing
ENG 2314 Contemporary Fiction
ENG 2324 The Bible as Literature
ENG 2504 British Literature, 1300-1800
ENG 2505 British Literature, 1800-Present
ENG 2510 World Literature to 1700
ENG 2511 World Literature, 1700 to Present
ENG 2514 American Literature, 1800-1900
ENG 2515 Modern American Literature

English as a Second Language

ESL 1600 English for Internationals I
ESL 1601 English for Internationals II

French

FRE 1600 Elementary French I
FRE 1601 Elementary French II
FRE 2320 Special Topics
FRE 2600 Intermediate French I
FRE 2601 Intermediate French II

Geography

GEO 1614 Introduction to Physical Geography
GPY 1500 Introduction to World Geography

Geology

GEL 1604 Physical Geology
GEL 2605 Historical Geology

German

GER 1600 Elementary German I
GER 1601 Elementary German II
GER 2600 Intermediate German I
GER 2601 Intermediate German II

Health

HED 1111 Special Health Problems
HED 1153 Cardiopulmonary Resuscitation (CPR) Instructor
HED 1201 Special Health Problems
HED 1203 Cardiopulmonary Resuscitation (CPR)
HED 1204 First Aid Responding to Emergencies
HED 1208 Personal Fitness Analysis
HED 1300 Introduction to Health Education
HED 1301 Special Health Problems
HED 1302 Sexual Development of Children
HED 2301 Human Sexuality

History

HIS 1500 World Civilization I
HIS 1501 World Civilization II
HIS 1502 American History I
HIS 1503 American History II
HIS 1504 Recent American History
HIS 1505 The Modern World
HIS 1510 American Civil War
HIS 1520 African-American History I
HIS 1521 African-American History II
HIS 2104-2505 Special Topics in History
HIS 2500 North Carolina History

Humanities

HUM 1319 Mythology
HUM 1329 Slavic Literature and Culture
HUM 1500 Humanities-Classical to Medieval
HUM 1501 Humanities-Renaissance to Present
HUM 1510 Writers and Revolutionaries
HUM 1590 Leadership: A Classic Approach
HUM 2320 Special Topics

Interpreter Training

IPP 1503 Translation and Intercultural Communication
IPP 1601 Sign Language I
IPP 1602 Sign Language II

Italian

ITA 1600 Elementary Italian I
ITA 1601 Elementary Italian II
ITA 2600 Intermediate Italian I

Management

MGT 2314 Principles of Management

Marketing

MKT 1304 Marketing I
MKT 1305 Marketing II

Mathematics

MAT 1504 College Algebra I
MAT 1505 College Algebra II
MAT 1512 Calculus for Business and Social Science
MAT 1514 Precalculus Mathematics I
MAT 1515 Precalculus Mathematics II
MAT 1524 Analytic Geometry and Calculus I
MAT 2504 Analytic Geometry and Calculus II
MAT 2505 Analytic Geometry and Calculus III
MAT 2506 Analytic Geometry and Calculus IV
MAT 2508 Ordinary Differential Equations
MAT 2514 Statistics I
MAT 2515 Statistics II
MAT 2590 Individual Study

Music

MUS 1100 Vocal Ensemble
MUS 1102 Jazz Vocal
MUS 1104 Class Voice I
MUS 1105 Class Voice II
MUS 1107 Chamber Choir
MUS 1117 Wind Ensemble
MUS 1122 Fiddle-Bluegrass and Old-Time
MUS 1123 Jazz Ensemble
MUS 1127 Orchestra
MUS 1128 Concert Band
MUS 1132 Introduction to Sight Singing and Ear Training
MUS 1133 Banjo-Old-Time Music
MUS 1136 Clawhammer Banjo II
MUS 1139 Old-Time Music "Jam"
MUS 1151 Improv Rhythm and Instrumental-Beginning
MUS 1152 Improv Rhythm Section-Intermediate
MUS 1153 Improv Instrumental-Intermediate
MUS 1154 Class Piano I
MUS 1155 Class Piano II
MUS 1156 Class Piano III
MUS 1157 Intermediate Piano I
MUS 1158 Intermediate Piano II
MUS 1160 Classical and Flamenco Guitar

MUS 1164 Guitar
MUS 1165 Intermediate Guitar
MUS 1166 Folk Music Guitar I
MUS 1167 Folk Music Guitar II
MUS 1171 Chords I
MUS 1172 Chords II
MUS 1177 Appalachian Dulcimer
MUS 1189 Autoharp
MUS 1304 Children's Music I
MUS 1305 Children's Music II
MUS 1310 Introduction to Music Theory
MUS 1314 Music Appreciation I
MUS 1315 Music Appreciation II
MUS 1320 Music for Dancers I
MUS 1321 Music for Dancers II
MUS 1324 Recording Studio Techniques I
MUS 1325 Recording Studio Techniques II
MUS 1326 Recording Studio Techniques III
MUS 1327 Recording Studio Techniques IV
MUS 1350 History of Rock and Roll
MUS 1404 Music Theory I
MUS 1405 Music Theory II
MUS 1406 Music Theory III
MUS 2100 Seminar in Music I
MUS 2154 Advanced Class Piano I
MUS 2155 Advanced Class Piano II
MUS 2156 Advanced Class Piano III
MUS 2158 Piano Ensemble
MUS 2169 Jazz Guitar
MUS 2200 Seminar in Music II
MUS 2201 Business of Music
MUS 2202 Songwriting
MUS 2204 Special Problems in Music
MUS 2257 Jazz Piano I
MUS 2258 Jazz Piano II
MUS 2300 Seminar in Music III
MUS 2404 History and Literature of Music I
MUS 2405 History and Literature of Music II
MUS 2406 History and Literature of Music III
MUS 2407 Advanced Music Theory I
MUS 2408 Advanced Music Theory II
MUS 2409 Advanced Music Theory III

Music, Applied

MUA 1100 (1 credit), MUA 1200 (2 credits), MUA 1300, (3 credits) Piano
MUA 1101 (1), MUA 1201 (2), MUA 1301, (3) Organ
MUA 1102 (1), MUA 1202 (2), MUA 1302, (3) Voice
MUA 1103 (1), MUA 1203 (2), MUA 1303, (3) Harpsichord
MUA 1104 (1), MUA 1204 (2), MUA 1304, (3) Harp
MUA 1105 (1), MUA 1205 (2), MUA 1305, (3) Violin
MUA 1106 (1), MUA 1206 (2), MUA 1306, (3) Guitar
MUA 1107 (1), MUA 1207 (2), MUA 1307, (3) Percussion
MUA 1108 (1), MUA 1208 (2), MUA 1308, (3) Flute
MUA 1109 (1), MUA 1209 (2), MUA 1309, (3) Trumpet
MUA 1110 (1), MUA 1210 (2), MUA 1310, (3) Trombone
MUA 1111 (1), MUA 1211 (2), MUA 1311, (3) String Bass
MUA 1112 (1), MUA 1212 (2), MUA 1312, (3) Clarinet
MUA 1113 (1), MUA 1213 (2), MUA 1313, (3) Saxophone
MUA 1114 (1), MUA 1214 (2), MUA 1314, (3) Cello
MUA 2100 (1), MUA 2200 (2), MUA 2300, (3) Piano
MUA 2101 (1), MUA 2201 (2), MUA 2301, (3) Organ
MUA 2102 (1), MUA 2202 (2), MUA 2302, (3) Voice
MUA 2103 (1), MUA 2203 (2), MUA 2303, (3) Harpsichord
MUA 2104 (1), MUA 2204 (2), MUA 2304, (3) Harp
MUA 2105 (1), MUA 2205 (2), MUA 2305, (3) Violin
MUA 2106 (1), MUA 2206 (2), MUA 2306, (3) Guitar
MUA 2107 (1), MUA 2207 (2), MUA 2307, (3) Percussion
MUA 2108 (1), MUA 2208 (2), MUA 2308, (3) Flute
MUA 2109 (1), MUA 2209 (2), MUA 2309, (3) Trumpet
MUA 2110 (1), MUA 2210 (2), MUA 2310, (3) Trombone
MUA 2111 (1), MUA 2211 (2), MUA 2311, (3) String Bass
MUA 2112 (1), MUA 2212 (2), MUA 2312, (3) Clarinet
MUA 2113 (1), MUA 2213 (2), MUA 2313, (3) Saxophone
MUA 2114 (1), MUA 2214 (2), MUA 2314, (3) Cello

Philosophy

PHI 1500 Introduction to Philosophy
PHI 2500 Logic

Physical Education

HPE 1100 Individual Activity
HPE 1104 Fencing-Beginning
HPE 1105 Fencing-Intermediate
HPE 1106 Fencing-Advanced
HPE 1107 Self Defense and Physical Conditioning-Beginning
HPE 1108 Self Defense and Physical Conditioning-Intermediate
HPE 1109 Self Defense and Physical Conditioning-Advanced
HPE 1112 Water Aerobics
HPE 1113 Volleyball and Badminton
HPE 1114 Snow Skiing-Beginning
HPE 1115 Snow Skiing-Intermediate
HPE 1116 Snow Skiing-Advanced
HPE 1123 Physical Fitness-Beginning
HPE 1124 Physical Fitness-Intermediate
HPE 1125 Physical Fitness-Advanced
HPE 1126 Social Dance-Beginning
HPE 1127 Social Dance-Advanced Beginner
HPE 1128 Social Dance-Intermediate
HPE 1130 American and English Country Dancing
HPE 1132 Weight Training I
HPE 1140 Self Protection for Women
HPE 1145 Golf-Intermediate
HPE 1147 Tennis-Beginning
HPE 1148 Tennis-Intermediate
HPE 1149 Tennis-Advanced
HPE 1150 Exercise for the Handicapped
HPE 1153 Weight Training II
HPE 1164 Yoga-Beginning
HPE 1165 Yoga-Intermediate
HPE 1166 Yoga-Advanced
HPE 1170 Aerobics I
HPE 1174 Rock Climbing
HPE 1175 Techniques of Lead Climbing
HPE 1176 Introduction to Backpacking
HPE 1177 Wilderness Skills
HPE 1180 Orienteering
HPE 1182 Cross Country Skiing
HPE 1184 Swimming-Beginning
HPE 1185 Swimming-Advanced Beginner
HPE 1186 Swimming-Intermediate
HPE 1187 Swimming-"Swimmer"
HPE 1190 Introduction to Golf I
HPE 1191 Introduction to Golf II
HPE 1192 Aerobics II
HPE 1193 Fitness and Conditioning I
HPE 1194 Fitness and Conditioning II
HPE 1195 Fitness and Conditioning III
HPE 1196 Gymnastics-Beginning
HPE 1197 Gymnastics-Intermediate

HPE 1198 Bowling-Beginning
HPE 1200 Creative Arts in Recreation
HPE 1203 Water Safety Instructor
HPE 1215 Lifeguard Training
HPE 1404 Introduction to Recreation
HPE 1405 Team Sports and Games in Recreation
HPE 2100 Bicycling
HPE 2111 Independent Study - Weight Training I
HPE 2112 Canoeing-Basic
HPE 2113 Canoeing-Rivers
HPE 2114 Canoeing-Basic Whitewater
HPE 2115 Introduction to Kayaking
HPE 2116 Whitewater Kayaking
HPE 2200 Sports Officiating
HPE 2314 Lifetime Activities
HPE 2325 Introduction to Outdoor Recreation
HPE 2434 Recreation and Special Populations

Physics

PHY 1404 Physics I-Basic Mechanics
PHY 1405 Physics II-Elastic and Thermal Properties of Matter
PHY 1406 Physics III-Electricity and Magnetism
PHY 1407 Physics IV-Optics and Modern Physics
PHY 1500 Introduction to Astronomy
PHY 2504 General Physics I-Mechanics
PHY 2505 General Physics II-Fluid Mechanics, Heat and Waves
PHY 2506 General Physics III-Electricity and Magnetism
PHY 2507 General Physics IV-Optics and Modern Physics

Political Science

POL 1502 American Politics
POL 1510 Comparative Politics
POL 1511 International Relations
POL 2104-2504 Special Topics in Political Science
POL 2500 State and Local Politics
POL 2501 Political Ideologies

Psychology

PSY 1300 The Self and Society
PSY 1500 Psychology of Adjustment
PSY 2136-2536 Special Topics in Psychology
PSY 2500 Educational Psychology
PSY 2504 General Psychology
PSY 2505 Human Development
PSY 2514 Abnormal Psychology

Russian

RUS 1600 Elementary Russian I
RUS 1601 Elementary Russian II

Sociology

SOC 1301 Group Interaction
SOC 1500 Sociology of the Family
SOC 1505 Sociology of Religion
SOC 2514 Introduction to Sociology
SOC 2515 Social Problems
SOC 2524 Special Problems of Sociology

Spanish

SPA 1600 Elementary Spanish I
SPA 1601 Elementary Spanish II
SPA 2600 Intermediate Spanish I
SPA 2601 Intermediate Spanish II

Speech

SPH 1300 Oral Communications
SPH 1301 Persuasive Speaking
SPH 2300 Voice and Diction I
SPH 2302 Voice and Diction II-Oral Interpretation
SPH 2304 Public Speaking
SPH 2310 Intercultural Communications

College-Level Course Descriptions

Course Prefixes *

ACC	Accounting
ADV	Advertising
AHR	Air Conditioning, Heating and Refrigeration
ANT	Anthropology
ARC	Architectural Technology
ART	Art
AUB	Automotive Body Repair
AUT	Automotive Technology
BAF	Banking and Finance
BIO	Biology
BUS	Business
CHM	Chemistry
CIV	Civil Engineering Technology
CSC	Correctional Services
CYT	Cytotechnology
DAN	Dance
DEA	Dental Assisting
DEN	Dental Hygiene
DFT	Drafting
DRA	Drama
DSL	Diesel Vehicle Maintenance
ECA	Early Childhood
ECO	Economics
EDN	Interior Design
EDP	Computers (Electronic Data Processing)
ELC	Electrical Installation and Maintenance
ELN	Engineering Technology
ENG	English
ESL	English as a Second Language
FAS	Fashion Merchandising and Marketing
FIN	Finance
FIP	Fire Protection
FRE	French
FSO	Foodservice
GEL	Geology
GEN	General Studies
GEO	Geography, Physical
GER	German
GPY	Geography, World
HED	Health Education
HIS	History
HLT	Health
HOR	Horticulture
HPE	Health and Physical Education
HRM	Hotel/Restaurant Management
HSA	Human Services
HSE	Occupational Health Safety, & Environmental Technology
HUM	Humanities
INS	Insurance
INT	International Business
IPP	Interpreter Training
ITA	Italian
LEX	Paralegal
MAC	Machinist
MAT	Mathematics
MEC	Mechanical Engineering Technology
MED	Medical Assisting
MET	Medical Transcription
MFG	Manufacturing Engineering Technology
MGT	Management/Business Administration
MKT	Marketing and Retailing
MRT	Medical Records Technology
MUA	Applied Music
MUS	Music
NUP	Nursing, Practical
NUR	Nursing, Associate Degree
PHI	Philosophy
PHY	Physics
PME	Small Engine Repair
POL	Political Science
PRN	Graphic Arts, Printing
PSC	Law Enforcement Technology
PSM	Postal Service Technology
PSY	Psychology
PTH	Physical Therapist Assistant
REA	Real Estate Appraisal
RES	Real Estate
RTH	Respiratory Care Technology
RUS	Russian
SCI	Science
SEC	Secretarial
SOC	Sociology
SPA	Spanish
SPH	Speech Communication
TAT	Travel and Tourism Technology
TRN	Transportation
WLD	Welding

* All course prefixes not listed here are found in the Pre - College Programs; see pages 44-49.

ABE – Adult Basic Education. See page 44.

ABL – Adult Basic Literary Education. See page 44.

ACC – Accounting

ACC 1604 Principles of Accounting I: Upon completion of this study of basic accounting principles and procedures, students should be able to complete the accounting cycle for both service and merchandising enterprises, including the preparation of formal financial statements for the sole proprietorship. In addition, students should have an understanding of specialized systems such as special journals and the voucher system; be able to prepare a bank reconciliation; and properly account for notes receivable, accounts receivable, merchandise inventories, notes payable, and payroll. (5-2) 6

***ACC 1605 Principles of Accounting II:** In this continuing study of basic accounting principles, the emphasis is on corporate accounting. Students will study partnerships, corporations, manufacturing costs and cash flows. Depreciation methods and disposable plant assets are also covered, and the following statements are prepared: stockholders' equity,

retained earnings, cost of goods manufactured, and cash flows.

*Prerequisite: ACC 1604 (5-2) 6

***ACC 2626 Intermediate Accounting I:** Upon completion of this course, students should be able to explain the development of accounting standards; define and apply basic accounting assumptions and principles; explain the accounting cycle and prepare necessary adjusting and closing entries; prepare an income statement, balance sheet, and a retained earnings statement; account for cash and receivables; account for various types of accounting changes and error corrections; apply currently acceptable methods of inventory costing and valuation; and compute and interpret financial ratios.
*Prerequisite: ACC 1605 (5-2) 6

***ACC 2627 Intermediate Accounting II:** Upon completion of this continuing study of intermediate accounting, students should be able to account properly for plant and intangible assets, long-term debt, investments, stockholders' equity, and leases. In addition, students should be able to prepare a statement of cash flows and use present value concepts to solve various types of problems.
*Prerequisite: ACC 2626 (5-2) 6

ACC 3500 Small Business Accounting: Upon completion of this course, students should be able to describe the different types of business enterprise; describe the basic accounting cycle; record business transactions using both the cash basis and the accrual basis of accounting; prepare and analyze the basic financial statements; establish, control and reconcile a bank account; calculate payrolls and keep the appropriate payroll records; and complete a variety of government reports. (5-0) 5

ACC 3600 General Accounting: Upon completion of this study of basic accounting principles, students should be able to analyze, journalize, and post transactions for service and merchandising organizations; complete end-of-period financial statements; prepare a bank reconciliation; and properly account for payrolls and petty cash funds. (5-2) 6

***ACC 4284 Cooperative Work Experience I**: Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-op office (0-20) 2

***ACC 4285 Cooperative Work Experience II:** A continuation of ACC 4284, this course further refines the students' skills. Upon successful completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the specific requirements and responsibilities of successful employment in the field and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-Op Staff (0-20) 2

***ACC 4308 International Accounting:** Upon completion of this course, students should be able to describe accounting systems used in different countries; describe the impact different currencies and methods have on identifying, recording, and interpreting financial information; recognize the need for setting international accounting and auditing standards; describe practices used to account for differing rates of inflation and other price changes; give the reasons currency exchange rates vary and the methods of setting and selecting a transfer price; describe the major types of taxes to which international organizations are exposed; and explain U.S. tax adjustments for foreign taxation.
*Prerequisite: ACC 1605, INT 3307 (3-0) 3

***ACC 4404 Auditing:** Upon completion of this course, students will have a basic understanding of the theories and practices of auditing and the generally accepted auditing standards, rules of professional conduct, legal liability and the types of opinions issued. In addition, students should be able to compare and contrast the external auditor's view with that of the internal auditor and explain internal controls, audit evidence and working papers. Students will be required to draw on their communication skills as they participate daily in class discussions and present oral and written reports.
*Prerequisite: ACC 2627 (3-2) 4

***ACC 4414 Microcomputer Accounting - General Ledger:** Upon completion of this course, students should be able to use the microcomputer to record transactions in the general and special journals; open and maintain subsidiary files, enter adjusting and closing entries; prepare billings; and account for inventory, depreciation and payroll. Students will also be able to generate various reports and printouts from a computerized system.
*Prerequisites: ACC 1605, EDP 3310 (2-4) 4

***ACC 4415 Microcomputer Accounting - Spreadsheets:** Students entering this course must have a working knowledge of Lotus 1-2-3, including macros. Upon completion of this course, they should be able to use advanced Lotus commands to create templates for various accounting applications, including the following: completing the accounting cycle for a small business (preparation of a ten-column work sheet, income statement, statement of owner's equity, balance sheet, adjusting entries, closing entries, post-closing trial balance and reversing entries); statement of cash flows (direct and indirect methods); financial statement analysis (horizontal analysis, vertical analysis and ratio analysis); inventory methods (gross profit method and retail method); payroll records (payroll register, withholding tax tables and earnings records); and business plans.
*Prerequisites: ACC 1605, EDP 3215 (2-4) 4

***ACC 4425 Taxes - Business and Fiduciary:** Upon completion of this course, students should be able to find, interpret, and apply the relevant federal laws governing business and fiduciary income taxes. Topics include tax depreciation, accounting periods and methods, corporations, partnerships, S corporations, estates and trusts, and gifts. Students should

be able to complete various IRS forms pertaining to the topics covered in the course.

*Prerequisite: ACC 1605 (3-2) 4

ACC 4434 Taxes - Individual: Upon completion of this course, students should be able to find, interpret, and apply the relevant federal laws governing individual income taxes. Topics include filing status, exemptions for dependents, gross income, capital gains and losses, deductions and the computation of tax. Students should be able to complete various IRS forms pertaining to the topics covered in the course. (3-2) 4

***ACC 4444 Cost Accounting:** In this course covering manufacturing cost systems, students will study a variety of cost accounting procedures including job order, process costing and backflush costing. Students will account for materials, labor and factory overhead along with the use of predetermined application rates wherein under or over applied overhead will be analyzed using the spending and the idle capacity variances. Students will prepare income statements accompanied by a statement of cost of goods manufactured, a statement of cost of goods sold, a cost of production report and a schedule of dispensing of nonproducing departmental costs using the direct, step and the algebraic methods.
*Prerequisite: ACC 1605 (3-2) 4

***ACC 4447 Advanced Accounting:** Upon completion of this course, students should be able to solve a wide variety of problems illustrating advanced application of accounting principles and procedures. Topics include accounting and reporting for governmental and not-for-profit entities, home office and branch accounting, accounting for mergers and consolidations, and preparation of consolidated working papers and consolidated financial statements.
*Prerequisite: ACC 2627 (3-2) 4

ACC 5404 Accounting Practices I - AIB: This is a specialized course designed for students enrolled in the AIB/ Banking and Finance Programs. Upon completion of this course, students should be able to describe the content and purpose of a balance sheet and income statement, compare the accrual basis and cash basis of accounting, complete the accounting cycle and prepare a worksheet. Inventories and depreciation methods are also studied.
Note: This course will not substitute for ACC 1604. (4-0) 4

***ACC 5405 Accounting Practices II - AIB:** In this continuing study of basic accounting principles, the emphasis is on corporate accounting. Upon completion of this course, students should be able to contrast the advantages and disadvantages of the corporate form of organization, account for stocks and bonds, prepare a statement of cash flows and other financial statements for a corporation. Students will also study manufacturing cost systems and capital budgeting.
Note: This course will not substitute for ACC 1605.
*Prerequisite: ACC 5404 (4-0) 4

ADV – Commercial Art/Advertising Design

***ADV 1300 Photography for Advertising**: This is a course in view camera techniques, as they apply to advertising design and commercial photography. Students will use view cameras (supplied by the instructor) to produce professional quality photographs under studio lighting conditions, using both black and white and color films. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1385 (1-4) 3

***ADV 3401 Illustration I:** In this course, students will gain an understanding of the role of the illustrator in the advertising/graphic design industry. Students will be able to identify various types of illustration with regard to style, medium and technique. Students will be able to produce illustrations by developing concepts and by creating preliminary rough and finished illustrations in a variety of media. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1406 and ART 1426 (2-4) 4

***ADV 3414 Computer Assisted Design:** In this course, students will develop skills in the use of the computer as it functions in the advertising/graphic design industry. Students will demonstrate their design abilities with software programs such as QuarkXPress. They will solve design problems involving typography and art. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1406, ART 1426, or consent of Department Head (2-4) 4

***ADV 4284 Cooperative Work Experience:** Upon completion of this course, students should have applied the skills learned in the advertising design courses to actual working situations in the advertising/design business.
*Prerequisites: ADV 4414, ADV 4415, ADV 4424, ADV 4425 (0-20) 2

***ADV 4414 Advertising Production I:** In this course, students will explore major commercial printing processes, such as offset lithography and the role of the graph designer/art director within the industry. Students will demonstrate technical skills for producing professional-quality camera-ready art. Students will produce photostats, film and paper negatives and positives, and will use basic tools, such as technical pens, templates and the proportional scale. Students will also use software, such as QuarkXPress and Aldus Freehand, for both layout and camera-ready art. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1406, ART 1426, ADV 4454 (2-4) 4

***ADV 4415 Advertising Production II:** Upon completion of this course, students will be able to produce high-quality camera-ready, multi-color mechanical art using traditional methods, as well as computer-based programs such as QuarkXPress, Aldus Freehand and Adobe Photoshop. Students will explore and demonstrate an understanding of duotone, halftone screens, the Pantone Matching System (PMS) and process color, Letterpress and Flexographic printing, diecutting, embossing and scoring. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 4414 (2-4) 4

***ADV 4416 Advertising Production III:** As a continuation of Advertising Production II, students in this course will produce mechanicals involving line and halftone art, surprints and dropouts. Students will use traditional methods as well as computer-generated projects, utilizing such software as QuarkXPress, Aldus Freehand and Adobe Photoshop. They will demonstrate their understanding of various methods of folding, binding, imposition and finishing procedures. Stu-

dents will acquire an understanding of the relationships of printing, paper and ink.
*Prerequisite: ADV 4415 (2-4) 4

***ADV 4424 Advertising Studio I:** Through the development and production of newspaper and magazine ads, students will demonstrate their abilities at conceptual and creative thinking. They will analyze and evaluate noteworthy advertising, both past and present. Students will demonstrate their abilities in the use of markers and other tools to produce layouts from thumbnails to comprehensives. They will also demonstrate their abilities in the use of market research, design principles, typography and the terminology used in the advertising/graphic design industry. Students will use basic computer software to refine visuals and type as necessary. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1406, ART 1426, ADV 4454 (2-4) 4

***ADV 4425 Advertising Studio II:** In this course, students will develop solutions to a variety of direct advertising projects. Special emphasis will be given to paper selection, color, special printing effects and client presentations. Students will produce a corporate image program (logo identity), incorporating the use of software such as QuarkXPress, Aldus Freehand and Adobe Photoshop. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 4424 (2-4) 4

***ADV 4426 Advertising Studio III:** Upon completion of this course, students should be able to produce comprehensive layouts in a wide variety of media. They will develop a concept and an entire ad campaign. They will produce a self-promotional logo and package of graphic design items, reflecting their use of conceptual thinking and market research, as well as technical skill. Students will use software programs to design and produce layouts, mechanicals and comprehensives. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 4425 (2-4) 4

***ADV 4427 Advertising Studio IV:** In this course, elements and processes explored in previous Studio courses will be applied to a series of advertising/graphic design problems. Students will be able to demonstrate an understanding of printing and multi-media and will produce an advertising campaign which demonstrates research, analysis, imagination and techniques of a good sales presentation. Students will use software such as QuarkXPress, Aldus Freehand and Adobe Photoshop. Students will need to purchase additional supplies for this course.
*Prerequisite: ADV 4426 (2-4) 4

***ADV 4436 Advertising Thesis:** During this course, students will refine and produce a professionally executed portfolio of their best advertising/graphic design work. They will produce a resume and cover letter for use in job applications and interviews. They will also develop and demonstrate interpersonal skills necessary for success in the advertising/graphic design field. Students will need to purchase additional supplies for this course.
*Prerequisites: ADV 4416 and ADV 4426 (2-4) 4

***ADV 4454 Typography and Lettering I:** In this course, students will develop skills using type as a design element through hand lettering and computer-generated characters. They will acquire a basic vocabulary and learn methods of typesetting and guidelines for spacing. Through practical design problems, students will examine the visual impact and legibility of the printed word in the advertising and graphic design industry. They will explore the use of pagination software such as QuarkXPress in developing type formats and solutions. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1404 and ART 1424 (2-4) 4

***ADV 4455 Typography and Lettering II:** In this course, students will continue to enhance their skills in using type as a visual communications element. Through the use of software such as QuarkXPress and Aldus Freehand, students will explore a variety of typographic solutions and manipulations. Students will be able to identify specific typefaces and produce work suitable to be sent to a service bureau. Students will need to purchase additional supplies for this course.
*Prerequisite:ADV 4454 (2-4) 4

AHR – Air Conditioning, Heating and Refrigeration

Note: The Program Director may waive prerequisites/ corequisites for students with appropriate field experience.

***AHR 4304 Introduction to Psychrometrics:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to describe the basic properties of air; describe the changes in volume and pressure with temperature; describe dew point temperature; describe humidity ratio, sensible heat, latent heat and their relationship with each other; determine sensible heat ratios, mixed air temperatures and enthalpy values; and solve simple problems using the psychrometric chart.
*Prerequisite: Completion of first year AHR courses (3-0) 3

***AHR 4325 Air Conditioning, Heating and Refrigeration Drawing and Sketching:** Upon completion of this course, students should be able to identify the typical symbols used on the drawings of air conditioning and refrigeration system plans, free-hand sketch simple plans showing equipment, produce orthographic projection drawings of simple equipment and fittings, draw a simple plan of a heating and air conditioning system, and organize the required information needed for a complete plan of a heating and air conditioning design.
*Prerequisite: Completion of first year AHR courses (1-4) 3

***AHR 4361 Residential Air Distribution and Balance:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to demonstrate a comprehensive knowledge and understanding of air and its behavior in a duct or residential air distribution system, design each of the four basic duct systems used in residences, design a return system for residences, estimate blower capacity, estimate and measure friction loss, and size an air distribution system for a residence correctly using both manual and computer entry technology.
*Prerequisite: Completion of first year AHR courses (2-2) 3

***AHR 4372 Hydronic Distribution Systems Design and Balance:** Upon completion of this course, students should be able to select boiler and other components for a complete system utilizing charts, tables, and catalog information;

design commonly-used hydronic systems and size pipe by accepted methods; and determine water temperatures and quantities to meet calculated load conditions.
*Prerequisite: Completion of first year AHR courses (3-0) 3

***AHR 4451 Commercial Refrigeration System Design:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to estimate the cooling load requirements for any common commercial refrigeration application, select proper equipment and controls to meet load requirements, and design and size a refrigeration piping system including piping accessories and controls.
*Prerequisite: Completion of first year AHR courses (4-0) 4

***AHR 4452 Residential Air Conditioning Systems Design:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to estimate the heating and/or cooling needs of a residence, select the proper size of heating and/or cooling equipment required to meet the estimated needs, determine air quantities on a room-by-room basis, select room air outlets and returns, and size duct work for simple systems using both manual and computer entry technology.
*Prerequisite: Completion of first year AHR courses (3-2) 4

***AHR 4453 Commercial Air Conditioning Systems Design:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to estimate the heating and/or cooling requirements of a commercial-type structure using both manual and computer entry technology, choose the proper size of heating and/or cooling equipment to meet these requirements, determine air mixture conditions entering and leaving a cooling coil, use psychrometric chart to determine conditions of mixed air flow, determine sensible and latent heat loads of air quantities, and determine quantities and mixture conditions based upon calculated loads.
*Prerequisite: Completion of first year AHR courses (3-2) 4

***AHR 4462 Commercial Air Distribution and Balance:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to describe air and its behavior in a commercial air distribution system, describe the types and classes of fans and their applications, use fan charts to select fans and analyze air systems, and discuss basic air distribution systems including duct sizing methods and proper selection of air outlets and returns.
*Prerequisite: Completion of first year AHR courses (3-2) 4

***AHR 4463 Control Systems:** Upon completion of this course, students should be able to interpret symbols on a control schematic diagram, draw a control schematic diagram, compare various control systems and select the one best suited for a specific application, prepare a control diagram for a refrigeration system, properly assemble the components for an operating control system, test and analyze control circuits, and adjust various controls in a system.
*Prerequisite: Completion of first year AHR courses (3-2) 4

***AHR 4471 Installation and Service Problems:** Upon completion of this course, students should be able to use a variety of test instruments, estimate capacity requirements of various components and equipment, select proper location for various components, examine various systems and solve service problems using a variety of shop and field equipment, test and repair lab units, evaluate installation requirements, compare piping techniques, and select system accessories.
*Prerequisite: Seventh quarter standing in Air Conditioning, Heating and Refrigeration Technology program (2-6) 4

***AHR 5204 Wiring Diagrams and Troubleshooting for A/C Systems:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to identify the more commonly-used control components, their symbols, and describe their function in the control system; read wiring diagrams; and troubleshoot and replace controls in a control system.
*Prerequisite: AHR 5314 (1-3) 2

***AHR 5205 In Place Co-Op I:** Upon completion of this course, students should be able to apply, in the AHR industry, the skills learned in the Air Conditioning, Heating and Refrigeration (AHR) classroom and lab. Students may take this class in the place of AHR 5333 or AHR 5230.
*Prerequisite: Completion of two quarters in the AHR program (0-20) 2

***AHR 5206 In Place Co-Op II:** Upon completion of this course, students should be able to apply, in the AHR industry, the skills learned in the Air Conditioning, Heating and Refrigeration (AHR) classroom and lab. Students may take this class in place of AHR 5333 or AHR 5230.
*Prerequisite: Completion of two quarters in the AHR program (0-20) 2

***AHR 5224 A/C, Heating and Refrigeration Blueprint Reading**: Upon completion of this course, students should be able to interpret a simple residential blueprint; use plans, schedules and tables; and describe use of notes, lines, projections, and dimensioning procedures.
*Prerequisite: AHR 5411 (1-2) 2

***AHR 5230 Basic Electronics for Air Conditioning, Heating, and Refrigeration**: Upon completion of this course, students should be able to identify and explain the operation of various electronic components, describe procedures used to test these components, and explain how to use the oscilloscope to make basic measurements.
*Prerequisite: AHR 5314 (2-0) 2

***AHR 5301 Basic Electricity:** Upon completion of this course, students should be able to discuss electrical terms, identify electrical symbols, apply Ohm's Law, draw wiring diagrams of series and parallel circuits, describe magnetism as it applies to electricity, discuss the fundamentals of electrical current generation, and describe the function of simple electrical controls as they are used in air conditioning and refrigeration systems.
*Corequisite: AHR 5411 (3-0) 3

***AHR 5312 Shop Practices:** Upon completion of this course, students should be able to select the correct tubing for refrigerant use, bend tubing properly, flare and swage tubing, use various solders and techniques in making a series of soldered connections, construct a small piping system, use a gauge manifold, and examine a tubing or piping system for leaks utilizing at least three leak detection methods.
*Corequisite: AHR 5411 (2-3) 3

***AHR 5313 Refrigeration Service Principles**: Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to

use the gauge manifold properly; analyze several operating refrigeration systems and measure the degree of efficiency of each; inspect, remove, and re-install various sub-assemblies of the system; examine all components and replace them; determine faulty system components; and test entire system and place into operation.
*Corequisites: AHR 5411, AHR 5312, AHR 5301 (2-3) 3

***AHR 5314 Automatic Controls:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to understand and use electrical measuring instruments, identify and describe the function and operation of basic control devices, install and wire these basic controls into a control circuit, select the proper type and size of wire for each application, and read basic pictorial wiring diagrams.
*Prerequisite: AHR 5301 (2-3) 3

***AHR 5321 Commercial Refrigeration Installation:** Upon completion of this course, students should be able to describe various types and applications of commercial refrigeration installations, compare various defrost methods, select correct safety and operating controls for a given application, construct a refrigerant piping system, charge the system with proper amount of refrigerant and test for leaks, and start up system.
*Prerequisites: AHR 5313, AHR 5301, AHR 5411, AHR 5312 (2-3) 3

***AHR 5322 Commercial Refrigeration Service:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to compare various commercial refrigeration systems, use necessary tools and apply service techniques taught in this course, test for and repair refrigerant leaks, analyze a system malfunction, choose and install correct replacement component(s), test for proper operation of entire system, use specific equipment to dehydrate and evacuate system, install correct refrigerant charge, start system, and evaluate system operation.
*Prerequisites: AHR 5301, AHR 5313, AHR 5312 (2-3) 3

***AHR 5323 Oil Burners:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to differentiate between the various types of oil burners, test and evaluate high pressure type burners, assemble a high pressure oil burner, interpret an electrical diagram for an oil burner assembly, prepare the oil burner for testing, and measure combustion efficiency.
*Prerequisites: AHR 5301, AHR 5312 (2-3) 3

***AHR 5333 Liquid Heat - One-Pipe and Two-Pipe Systems:** Upon completion of this course, students should be able to identify various types of heating units commonly used with one-pipe and two-pipe hydronic systems, sketch the basic systems commonly used in these systems, determine water quantities and temperature drops, select the essential accessories for hydronic systems, size pipes and select pumps, identify the kinds of boilers used, describe the basic requirements of the NC State Code as related to residential hydronic systems, and size steam piping for one-pipe steam systems.
*Prerequisites: AHR 5401, AHR 5312 (2-3) 3

***AHR 5341 Gas Heat**: Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to differentiate between the various types of gas furnaces; describe operating and safety controls; design a gas piping system properly; test vent and gas piping for leaks and proper operation; dismantle entire furnace, evaluate its condition, repair or replace faulty components, and reassemble the unit; start up the completed installation; describe the safety codes; and measure combustion efficiency.
*Prerequisites: AHR 5204, AHR 5314, AHR 5312 (2-3) 3

***AHR 5342 Electric Heat:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to calculate the heat loss in wattage on a room-to-room basis for a structure; select the most appropriate type of system for a particular application; choose the correct controls for the system selected; design a simple system; assemble all components and install them; inspect and test systems and components for safe and proper operation; solve problems with system components; estimate approximate annual cost of operation; and measure efficiency, voltage and wattage or current draw of a system.
*Prerequisite: AHR 5314 (2-3) 3

***AHR 5346 Air Conditioning and Heating Service Co-Op I:** Upon completion of this course, students should be able to produce and describe a master work log sheet containing the various types and number of job tasks completed in air conditioning or heating service company during this cooperative work experience and demonstrate acquired skills to show progress in making the transition from classroom and lab to an actual job in this service field.
*Prerequisites: AHR 5301, AHR 5312, AHR 5313, AHR 5411 (0-30) 3

***AHR 5347 Air Conditioning and Heating Service Co-Op II:** This course is a continuation of AHR 5346 Air Conditioning and Heating Service Co-Op I.
*Prerequisites: AHR 5224, AHR 5314, AHR 5431, AHR 5394, AHR 5444, AHR 5230, AHR 5204, AHR 5346 (0-30) 3

***AHR 5348 Air Conditioning and Heating Service Co-Op III**: This course is a continuation of AHR 5347 Air Conditioning and Heating Service Co-Op II.
*Prerequisites: AHR 5323, AHR 5341, AHR 5342, AHR 5443, AHR 5347 (0-30) 3

***AHR 5349 Air Conditioning and Heating Service Co-Op IV:** This course is a continuation of AHR 5348 Air Conditioning and Heating Service Co-Op III.
*Prerequisites: AHR 4304, AHR 4452, AHR 4361, AHR 4325, AHR 4372, AHR 5348 (0-30) 3

***AHR 5394 Mechanical Codes:** Upon completion of this course, students should be able to demonstrate a comprehensive understanding of the NC Building Code relating to air conditioning in residences and commercial buildings and refrigeration systems.
*Prerequisites: AHR 5323, AHR 5333, AHR 5341, AHR 5342 (3-0) 3

AHR 5401 Basic Calculations for A/C, Heating and Refrigeration Technicians: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems relating to the heating and air conditioning field; calculate direct and indirect ratio and proportion; read a ruler accurately; manipulate fractional and decimal numbers; use simple equations to solve arithmetic formulas in the field; perform calculations

for area and volume; understand scale measurement and angular measure; and discuss measurement using the metric system, as well as the English system. (4-0) 4

AHR 5411 Air Conditioning, Heating and Refrigeration Fundamentals: Upon completion of this course, students should be able to explain heat flow and how to measure it; demonstrate the use of various thermometers; explain the three states of matter; define density, specific gravity, power, energy, work, units of heat and other terms that apply to air conditioning, heating and refrigeration; and describe the refrigeration cycle including the function of the condenser, compressor, expansion device, and evaporator. (4-0) 4

***AHR 5431 Air Conditioning - Residential/ Commercial:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to discuss the terminology used in the field; diagram a complete refrigeration cycle, properly identifying all components; choose all necessary major components; differentiate between water- and air-cooled equipment; design a simple residential air conditioning system; employ all safety measures; compare remote and self-contained systems; compare air moving equipment; describe various commercial air conditioning systems; inspect, test, and analyze a commercial system; and solve service problems on systems.
*Prerequisites: AHR 5322, AHR 5314, AHR 5313, or one year field experience in lieu of AHR 5313 (3-3) 4

***AHR 5443 All Weather Systems - Conventional:** Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to describe the application of both heating and cooling in one system; compare the various combinations of oil-electric, gas-electric, all-electric, and other available combination systems; select the proper safety and operating controls for either type system; assemble all equipment and components, and construct an all-weather system of the conventional type; inspect and test systems; solve service problems; revise improperly installed systems; and measure and evaluate the overall performance of an all weather conventional type system.
*Prerequisites: AHR 5323, AHR 5341, AHR 5342 (3-3) 4

***AHR 5444 All Weather Systems - Heat Pumps**: Critical thinking and problem solving are emphasized in this class. Upon completion of this course, students should be able to draw a diagram of the refrigerant cycle, describe the heat pump concept, discuss the air-to-air and water-to-air heat pumps, select all components necessary to construct a heat pump, make a diagram showing all necessary operating and safety controls, perform service procedures on lab equipment, and discuss good design and installation practices.
*Prerequisites: AHR 5204, AHR 5313, AHR 5342, AHR 5312 (2-6) 4

ANT – Anthropology

ANT 1502 General Anthropology: Upon completion of this course, students should be able to evaluate the forms of evidence supporting various theories of human origins; describe the developmental stages of human anatomy and culture; and compare the cultural adaptations of societies around the world, with special emphasis on preliterate societies. Topics include prehistoric archaeology, problems of human survival, and the future of humanity. (5-0) 5

ARC – Architectural Technology

Also see Civil Engineering Technology for other course descriptions.

ARC 3100 Orientation: Upon completion of this course, students will be familiar with the Architectural Technology program and facilities. Students will also be familiar with location and operation of the Learning Resource Center, Campus Security, Counseling Services, Career Center, Special Services Department, Student Employment Center, Student Life Center and Student Support Services, Talent Search and the Learning Center. (1-0) 1

***ARC 3217 Architectural Computer Drafting IV Autoshade:** Upon completion of this course, students should be able to identify the components of the AUTOSHADE System and to convert three-dimensional architectural line drawings into realistic pictures that show perspective, surface shading, and reflection.
*Prerequisites: ARC 3316 (1-3) 2

***ARC 3303 Interior Design Drafting I:** Upon completion of this course, students should be able to apply basic light construction terminology to drawings, draw residential and industrial plans and details, recognize standard building materials and their sizes, compare and select various types of windows and doors, use inking pens, discuss contents of residential and commercial building codes, and use reference material and graphic standards.
*Prerequisites: ARC 3334 (1-6) 3

***ARC 3304 Interior Design Drafting II:** Upon completion of this course, students should be able to lay out standard building modular sizes, utilize information determined from residential and commercial building prints, interpret and write basic specifications, draw an electrical plan with a fixture schedule, identify various types of heating and cooling systems and draw a plan using the mechanical equipment symbols, and develop details for cabinet makers.
*Prerequisites: ARC 3303 (l-6) 3

***ARC 3314 Architectural Computer Drafting (CAD) AutoCAD I:** Upon completion of this course, students should be able to identify the components of the AutoCAD System and define their use, demonstrate a working understanding of the basic commands of the system, draw architectural drawings and dimension, have a working understanding of layers and line types, and plot a drawing.
*Prerequisites: ARC 3334 or equivalent (1-6) 3

***ARC 3315 Architectural Computer Drafting (CAD) AutoCAD II:** Upon completion of this course, students should be able to draw commercial floor plans, elevations, section details, storefront and schedules; incorporate manufacturer's CAD details into drawings; coordinate drawings and schedules.
*Prerequisites: ARC 3314 (1-6) 3

***ARC 3316 Architectural Computer Drafting (CAD) AutoCAD III:** Upon completion of this course, students should be able to demonstrate a knowledge of the 3D CAD coordinate system to view 3D objects; construct 3D isometric drawings, perspective drawings and 3D mesh drawings; plot 3D drawings.
*Prerequisites: ARC 3315 (1-6) 3

***ARC 3319 Advanced AutoCAD System:** Upon completion of this course, students should be able to configure AutoCAD, understand drawing file management, customize line types, customize hatching, assign attributes, extract attributes, modify screen menus, and input prewritten Lisp programs.
*Prerequisites: ARC 3315 (1-6) 3

ARC 3320 Introduction to Architecture: Upon completion of this course, students will have increased oral and writing skills, be able to identify the role of the architect and the technician in our society and in the architectural profession, discuss the major architectural developments in the United States, list the ways in which architectural design has responded to changes in society, evaluate the trends in architecture today, recognize and demonstrate similarities and differences among the world's societies and the cultures of the time as they relate to American architecture. (3-0) 3

***ARC3324 Architectural Computer Drafting (CAD)-Microstation I (Intergraph):** Upon completion of this course, students will be able to identify the components of the Microstation CAD system and define their use; demonstrate a working knowledge of the basic commands of the system; draw architectural drawings; dimension; have a working understanding of levels, and line types and weights; and plot a drawing.
*Prerequisites: ARC 3334 or equivalent (1-6) 3

***ARC 3325 Architectural Computer Drafting- Microstation II (Intergraph):** Upon completion of this course, students should be able to draw commercial floor plans, elevations, sections, details and schedules utilizing Microstation's multiline and reference file applications to coordinate drawings and schedules.
*Prerequisites: ARC 3324 (1-6) 3

***ARC 3326 Residential Design:** Upon completion of this course, students will be able to produce new residential designs, produce renovation or addition designs for residential structures, develop an understanding of professional residential design and develop an appreciation of aesthetics and other design considerations relative to the residential professional design profession. Students will also be able to select the most appropriate residential style considering owner needs, functional requirements and contextual relationships to surrounding buildings and spaces, and apply principles of energy efficient design. Drafting supplies are required.
*Prerequisites: ARC 3334 or instructor's permission (1-6) 3

ARC 3334 Basic Architectural Drawing: Upon completion of this course, students should be able to use drafting equipment; develop skills in lettering and drawing; use architectural and engineering scales; do freehand sketching; and draw basic residential plans, elevations, and details. (l-6) 3

***ARC 3335 Residential Working Drawings:** Upon completion of this course, students should be able to draw residential and light commercial drawings, including plans, elevations, sections, details and foundation plans; be familiar with residential code requirements; and apply basic residential construction terminology to drawings.
*Prerequisites: ARC 3334 (1-6) 3

***ARC 3336 Commercial Working Drawings:** Upon completion of this course, students should become familiar with fundamental commercial construction and building materials; develop and draw plans, wall sections and details; and detail exterior systems and construction.
*Prerequisites: ARC 3335 (1-6) 3

ARC 4200 Architectural Blueprint Reading: Upon completion of this course, students should be able to visualize building floor plans, elevations, sections, and details in relation to the completed three-dimensional structure; recognize drawing conventions, standard materials and equipment symbols on architectural, structural, mechanical, and electrical plans; apply information obtained from residential working, drawing floor plans, elevations, sections, and details as well as heating, air conditioning, plumbing, and electrical plans; utilize information determined from commercial building drawings pertaining to masonry, reinforced concrete, structural steel, and heavy timber construction; discuss contents of specifications and how they relate to drawing in the design and construction of buildings. (1-3) 2

***ARC 4202 Architectural Specifications Development:** Upon completion of this course, students should be able to organize various parts of specifications in the proper sequence; understand the relationship of specifications to contracts, bidding, and drawings; demonstrate use of the C.S.I. format in writing specifications.
*Prerequisites: CIV 3306, ARC 4200 (1-3) 2

***ARC 4214 Residential Building Code:** Upon completion of this course, students will demonstrate a basic understanding of the NC Residential Building Code, analyze code requirements for residential buildings, apply the code based on analysis. (2-0) 2

***ARC 4284 Cooperative Work Experience I:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and understanding of careers in the Architectural Technology industry, and to demonstrate results of applied experience to complement class and lab instruction.
*Prerequisites: 40 credit hours earned in residence toward engineering technology degree and permission of Program Director (0-0-20) 2

***ARC 4300 Architectural-Mechanical Equipment:** Upon completion of this course, students should be able to identify the types of plumbing distribution and hot water supply systems, size piping layout for a fresh water and a sanitary plumbing system, identify types of electrical wiring and service equipment, analyze various types of heating and cooling systems for buildings, create solutions to heat problems, assess impacts of solutions and make informed judgments on providing proper materials to reduce heat loss, identify the fundamentals of lighting and associated equipment, and describe vertical transportation equipment such as elevators.
*Prerequisites: ARC 3335, ARC 4200 (2-3) 3

***ARC 4303 Introduction to ADA:** Upon completion of this course, students should be able to identify the essential parts of the Americans with Disabilities Act as it applies to architects and architecture. Provisions directly related to building construction will be examined and applied to architectural situations.
*Prerequisites: ARC 4200 (3-0) 3

ARC 4310 Energy Efficient and Solar Home Design: Upon completion of this course, students should be able to identify the different systems of passive solar installations, understand the sun's effect on the earth, compute heat loss and gain, utilize the basic tools of passive design, be

acquainted with actual passive applications, and have a basic understanding of the performance of various building materials and insulation. (3-0) 3

***ARC 4337 Site Planning:** Upon completion of this course, students should be able to site buildings from the standpoint of orientation, utilities, cut and fill, parking and drives; understand the effect of zoning and other code requirements; and be able to identify components and draw storm drainage and sedimentation plans.
*Prerequisites: ARC 3336, CIV 3407 (1-6) 3

***ARC 4338 Mechanical/Electrical Drawing:** Upon completion of this course, students should be able to draw mechanical duct layouts; draw lighting, electrical plans, and schedules; draw plumbing plans, schedules, and riser diagrams; and identify and utilize appropriate symbols.
*Prerequisites: ARC 3336, ARC 4300 (1-6) 3

***ARC 4339 Structural Drawing:** Upon completion of this course, students should be able to draw a structural steel framing plan for a simple commercial or industrial building; detail the component parts of steel structures; detail components of a reinforced concrete structure, creating the placement drawing and bar bending schedule; present detailed drawing of a composite type structure; and provide the structural plan and detail aspects of a simple wooden facility.
*Prerequisite: ARC 3336
*Corequisite: CIV 4425 (1-6) 3

***ARC 4340 Project Studio:** Upon completion of this course, students should be able to perform as team members in the preparation of schematic design drawings to meet the building requirements of a hypothetical client; function as a member of the production team in the preparation and presentation of design development drawings; apply the fundamentals of ordinances and regulations pertaining to zoning, traffic, and facilities for the physically handicapped; produce, as a member of the team, a set of architectural working drawings, consisting of site plan, floor plans, reflected ceiling plans, elevations, wall section and details; and apply office practice methods pertaining to project production.
*Prerequisites: ARC 4300, ARC 4337, ARC 4339, CIV 4300 (1-6) 4

***ARC 4345 Architectural Presentation Drawing:** Upon completion of this course, students should be able to perform basic and advanced architectural presentation techniques, including the use of shading, shadows, and the use of perspective charts; apply a variety of mediums - including pencil, ink, and color; draw vegetation, people, and transportation vehicles; and produce a complete architectural rendering.
*Prerequisites: ARC 3334 or equivalent (1-6) 3

ART – Art

ART 1200 Fiber Dyes: Students successfully completing this course will demonstrate a basic understanding of direct and top-dyed processes utilizing natural and synthetic dyes, as well as an understanding of color theory as it applies to hand weaving. Students will need to purchase additional supplies for this course. (0-4) 2

ART 1230 Portrait Photography: This course applies information gained in Basic Camera Techniques (ART 1384) to the field of portrait photography. While taking photographs with their own 35mm cameras, students will develop skills in portrait lighting and posing, as well as gain insight into the types of equipment needed for portraiture. Both studio and environmental portraiture will be covered. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1384 or consent of Department Head (0-4) 2

ART 1300 Introduction to Art I: Upon completion of this course, students should be able to recognize and discuss the basic elements and principles of design as they apply to the visual arts. Through written or oral means, they will demonstrate an understanding of appropriate terms and the skills required in the various art media, as well as knowledge of how the visual arts affect daily life and commerce. Students may need to purchase additional supplies for this course. (3-0) 3

ART 1301 Introduction to Art II: Upon completion of this course, students should be able to draw parallels between art of the past and present. They will demonstrate an understanding through written or oral means of broad social, political, psychological, and economic motivations for creating art. Students may need to purchase additional supplies for this course. (3-0) 3

ART 1304 Printmaking I: Upon completion of this course, students should have a basic understanding of the four basic print media, including serigraphy, relief, intaglio, and lithography. Projects will be completed in each of these areas. Students will need to purchase additional supplies for this course. (0-6) 3

ART 1305 Printmaking II: Upon completion of this course, students should be able to select woods, execute appropriate designs for woodcuts, handle woodcut tools properly, and produce editions of prints using various woodcut techniques. Students will need to purchase additional supplies for this course. (0-6) 3

ART 1310 History of Art I: Students will survey major areas of the visual arts and the influence of history on the concepts and form of contemporary creative endeavor. This course will deal with prehistoric through Gothic art. (3-0) 3

ART 1311 History of Art II: Students will survey major areas of the visual arts and the influence of history on the concepts and form of contemporary creative endeavor. This course will deal with the Renaissance, Baroque, and Rococo art up to the 18th century. (3-0) 3

ART 1312 History of Art III: Students will survey the major areas of the visual arts and the influence of history on the concepts and form of contemporary creative endeavor from the 18th century Rococo and rise of Romanticism through the art of the 20th century. (3-0) 3

ART 1323 Basic Woodcarving: Students successfully completing this course will demonstrate a basic understanding of design concepts as they apply to woodcarving, as well as basic carving techniques, care of tools, and the history of carved wooden objects. Students will need to purchase additional supplies for this course. (0-6) 3

ART 1327 Sculpture I: Students successfully completing this course will demonstrate a basic understanding of traditional and contemporary forms of sculpture. Through hands-on experience in a variety of media, they will be able to utilize the elements of art and principles of design in producing original sculpture. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1328 Sculpture II:** Students successfully completing this course will build on the visual and technical skills learned in Sculpture I to produce original solutions to sculptural problems in a variety of media including clay, wood, or stone. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1327 or consent of Department Head
(0-6) 3

***ART 1329 Sculpture III:** Students successfully completing this course will demonstrate a good understanding of the visual and technical skills learned in Sculpture I and II, and will express individual ideas in metal, stone, clay, or wood. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1328 or consent of Department Head
(0-6) 3

ART 1331 Cartooning and Caricaturing: In this course, students will gain experience in analyzing techniques in cartoons and caricature, drawing and interpreting given problems with emphasis on originality. Students will need to purchase additional supplies for this course. (2-2) 3

***ART 1332 Photographing Nature**: This course is designed for students wishing to develop basic technical skills in taking wildlife, close-up and scenic photographs. Using their own 35mm cameras, students will demonstrate their understanding of techniques used in these types of photographs, such as close-ups, blind construction and lighting. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1384 or consent of Department Head
(2-2) 3

ART 1334 Painting I: Upon completion of this course, students should be able to select tools and materials for painting, as well as demonstrate a knowledge of the elements of art and the principles of design as these apply to the production of painting. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1335 Painting II:** Students will continue the analysis and production of good pictorial composition and will continue experimentation in painting techniques and media. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1334 or consent of Department Head
(0-6) 3

***ART 1336 Painting III:** Students will give special attention to painting as a means of personal expression; will continue to identify and solve problems of pictorial production in color, form, and spatial illusion; and will continue technical experimentation. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1335 or consent of Department Head
(0-6) 3

ART 1337 Portrait Painting I: Upon completion of this course, students should be able to demonstrate an understanding of line, value, warm and cool tones, as well as an understanding of the rules of linear expression in "seeing" the shape and proportions of the subject's head and shoulders. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1338 Portrait Painting II:** Upon completion of this course, students should be able to demonstrate the use of correct flesh tones and the proper choice of backgrounds of the subject's head and shoulders. Students will need to purchase additional supplies for this course.
*Prerequisite:ART 1337 or consent of Department Head
(0-6) 3

***ART 1339 Portrait Painting III:** Upon completion of this course, students should be able to demonstrate the ability to produce three-quarter view (including hands) of the subject in full color. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1338 or consent of Department Head
(0-6) 3

ART 1340 Stained Glass I: Students successfully completing this course will demonstrate a basic understanding of how the elements of art and the principles of design function in relation to stained glass objects. They will use the Tiffany method of stained glass construction to produce original stained glass objects. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1341 Stained Glass II:** Students successfully completing this course will demonstrate a basic understanding of the lead came method of stained glass construction. Utilizing this and the visual and technical skills learned in Stained Glass I, they will begin to express individual ideas in stained glass. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1340 or consent of Department Head
(0-6) 3

ART 1344 Weaving I: Students successfully completing this course will demonstrate a basic understanding of how to design and produce constructed textiles. They will know how to warp and dress the loom, and employ basic rug, basket, and tapestry techniques. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1345 Weaving II:** Students successfully completing this course will be able to warp and dress the floor loom, and design and produce original clothing and/or manipulated fiber constructions. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1344 or consent of Department Head
(0-6) 3

***ART 1346 Weaving III:** Students successfully completing this course will be able to design and produce textiles using the double weave and other 4-harness floor loom pattern techniques. They will also be able to use forms of ikat and dyeing incorporated in their weaving projects. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1345 or consent of Department Head
(0-6) 3

***ART 1347 Weaving IV:** Students successfully completing this course will demonstrate an understanding of bound, rya, or overshot weave. They will be able to design and produce one technique of fiber construction on the floor loom, and will also know the history and contemporary use of that tech-

nique. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1346 or consent of Department Head
(0-6) 3

ART 1348 Watercolor I: Upon completion of this course, students should be able to utilize appropriate brush techniques and proper color mixing in order to produce watercolor paintings of landscapes and still life subjects. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1349 Watercolor II:** Upon completion of this course, students will complete watercolor paintings that demonstrate a basic knowledge of illusionistic space and good composition. Students will produce paintings that incorporate glaze techniques and mixed media, including traditional and non-traditional media. Students will demonstrate an ability to use these techniques to create works that express their own personal ideas. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1348 or consent of Department Head
(0-6) 3

ART 1356 Furniture Design I: Students successfully completing this course will demonstrate a basic understanding of the design and construction of original functional and sculptural wood furniture, as well as three-dimensional concepts in furniture design. They will understand basic wood furniture construction and finishing techniques as a result of hands-on experience using hand and power tools. They will also demonstrate a basic knowledge of historical and contemporary furniture design. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1357 Furniture Design II:** Students successfully completing this course will further develop original ideas in furniture design. They will continue to develop skills in wood furniture construction and finishing, including use of the lathe and router, and will add to their knowledge of historical and contemporary furniture design. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1356 or consent of Department Head
(0-6) 3

***ART 1358 Furniture Design III:** Students successfully completing this course will be able to develop original ideas in furniture design, and will demonstrate a good knowledge of the construction and finishing of functional and sculptural furniture, including basic woodcarving techniques. They will also further add to their knowledge of historical and contemporary furniture design and construction. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1357 or consent of Department Head
(0-6) 3

ART 1360 Raku: Students successfully completing this course will demonstrate an understanding of the history, aesthetics, and techniques of the raku process. They will utilize this knowledge to design and produce original and expressive ceramic art. Students will need to purchase additional supplies for this course. (0-6) 3

ART 1364 Ceramics I: Students successfully completing this course will demonstrate a basic understanding of how the elements of art and the principles of three-dimensional design function in relation to clay form. As a result of hands-on experience with the clay, they will be able to design and make original, expressive clay objects, using a variety of hand-building techniques. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1365 Ceramics II:** Students successfully completing this course will demonstrate a basic understanding of traditional and contemporary forms of wheel thrown pottery. Building on visual and technical skills learned in Ceramics I, they will also be able to utilize design concepts effectively in producing original thrown forms. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1364 or consent of Department Head
(0-6) 3

***ART 1366 Ceramics III**: Students successfully completing this course will be able to use more complex fabricating techniques and will demonstrate a basic understanding of the relationship between form, materials, and surface. They will demonstrate a better understanding of contemporary ceramics, fire a reduction kiln, and begin to communicate visually original ideas in clay. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1365 or consent of Department Head
(0-6) 3

ART 1374 Jewelry I: Students successfully completing this course will demonstrate a basic understanding of how to design and produce finished metal jewelry. They will know how to saw, file, forge, solder, cast, and finish a variety of metals, as well as know how to care for tools and equipment. Students will need to purchase additional supplies for this course. (0-6) 3

***ART 1375 Jewelry II:** Students successfully completing this course will be able to further develop their individual design ideas using a variety of metals, and will know how to do cloisonne and casting with two metals. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1374 or consent of Department Head
(0-6) 3

***ART 1376 Jewelry III**: Students successfully completing this course will demonstrate a good understanding of how to design and produce original jewelry. They will do plique-a-jour, hollow core casting, and will begin to communicate visually original ideas through their work. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1375 or consent of Department Head
(0-6) 3

ART 1384 Basic Camera Techniques: Students will develop skills using their own 35mm camera. Instruction and practice will be provided in camera handling, films, filters, lenses and composition. Students will take photographs using color slide film to demonstrate their understanding of specific camera techniques. Students will need to purchase additional supplies for this course. (3-0) 3

***ART 1385 Photo Lab Processes I:** This is a basic course in black-and-white laboratory processes. Students will take photographs using their own 35mm cameras. They will develop those negatives and make black and white enlargements from them. Students will develop printing techniques such as burning, dodging, the controls of density and contrast, as well as basic photofinishing. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1384 or consent of Department Head
(1-4) 3

***ART 1386 Photo Lab Processes II:** In this course, students will enhance their black and white darkroom skills. Students will explore several new darkroom techniques, such as solarization, posterization and reticulation. In addition, students will develop a professional-quality portfolio of their best photographs. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1385 (1-4) 3

***ART 1389 Color Printing I:** This is a beginning course in color printing for students who have demonstrated their understanding of black-and-white lab processes. Students will shoot color negative films. They will demonstrate their understanding of basic color theory as it relates to color negative materials and the printing process. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1385 (1-4) 3

***ART 1390 Color Printing II:** This is a continuation of Color Printing I. Students will develop advanced color printing skills, including the use of the color analyzer. In addition, students have the option to make prints from color transparency films. They will demonstrate an understanding of some advanced photographic techniques, such as the use of the gray card, color correction filters and advanced lighting. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1389 (1-4) 3

***ART 1392 Advanced Camera Techniques:** This is a continuation of Basic Camera Techniques (ART 1384). Students will explore various aspects of photographic composition in an effort to develop their visual awareness. Students will acquire skills in advanced camera-handling techniques, such as multiple exposure, open flash, night photography, etc., using color slides as their medium. They will also gain a greater understanding of the legal rights and responsibilities of the photographer. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1384 (3-0) 3

ART 1404 General Drawing I: This course introduces students to many of the problems, and their possible solutions, in representing visual experience on the two-dimensional surface. Students will experiment with a variety of tools, materials, and techniques of drawing, and will learn to use these techniques and combinations of tools and materials as a means of personal expression and communication of experience. They will also be introduced to the basics of composition and perspective. Students will need to purchase additional supplies for this course. (2-4) 4

***ART 1405 General Drawing II:** Upon completion of this course, students will have been introduced to the study of perspective and other systematized methods of rendering the illusion of form and space. They should be able to apply elements of good pictorial composition and will have continued to develop technical competence in the use of a variety of materials and techniques in drawing. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1404 or consent of Department Head (2-4) 4

***ART 1406 General Drawing III:** In this course, students will work toward the use of drawing as a means of personal expression and will concentrate on the development of direction and method in their work. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1405 or consent of Department Head (2-4) 4

***ART 1407 Figure Drawing:** Upon completion of this course, students should be able to utilize a variety of media and techniques in depicting the human form in both active and still poses, draped and undraped. They should be able to demonstrate through their projects a knowledge of skeletal structure and an understanding of relative body proportions and of foreshortening relating to the human form. Students will need to purchase additional supplies for this course. NOTE: This course can be taken instead of ART 1405 or ART 1406, but not both.
*Prerequisite: ART 1404 or consent of Department Head (2-4) 4

ART 1424 Design I: Upon completion of this course, students should be able to identify and use the principles and elements of design as these relate to two-dimensional surface. Also studied are flat pattern development, pictorial composition, depiction of spatial illusion, and value analysis. Students will need to purchase additional supplies for this course. (2-4) 4

***ART 1425 Design II:** Students will examine and explore basic color theories. With this basis, individual color solutions, particularly as they might apply to practical communications problems, will be explored. The elements and principles of design will continue to be explored. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1424 or consent of Department Head (2-4) 4

***ART 1426 Design III:** Students will continue the study of principles of design and will employ these principles for works in both two and three dimensions. Emphasis will be upon personal solutions to design problems. Students will need to purchase additional supplies for this course.
*Prerequisite: ART 1425 or consent of Department Head (2-4) 4

***ART 1434 Airbrush:** Upon completion of this course, students should be able to use single- and double-action airbrushes to render basic three-dimensional geometric forms and simple objects in a realistic style. They should be able to use stencils and to cut friskets for a variety of airbrush assignments, as well as do basic black-and-white photo retouching and restoration. They will also use various air supplies and know how to clean and care for airbrush equipment. Students will need to purchase additional supplies for this course.
*Prerequisites: ART 1406, ART 1426, ADV 3401 (2-4) 4

ART 2101 Special Topics I: This is a lecture or lecture-lab course devoted to special areas of the visual arts which can be effected over two or more meetings. Contact hours are variable. (0-6) 1

ART 2201 Special Topics II: This is a lecture or lecture-lab course devoted to special areas of the visual arts which can be effected over two or more meetings. Contact hours are variable. (0-6) 2

ART 2302 Special Topics III: This is a lecture or lecture-lab course devoted to special areas of the visual arts which can be effected over two or more meetings. Contact hours are variable. (0-6) 3

ART 2322 Surface Design for Textiles: This course is an introduction to non-constructed textile processes. Students successfully completing it will have a basic understanding of the elements of art and the principles of design as they relate to textile surfaces. As a result of hands-on experience they will be able to stamp, stencil and resist, hand paint, batik and silk screen on fabric. Students will need to purchase additional supplies for this course. (0-6) 3

AUB – Automotive Body Repair

AUB 5201 Trim and Glass: Upon completion of this course, students should be able to disassemble, rebuild, and reassemble automobile doors; remove and install windshields and back glass; aim headlights; and remove and install seat covers and side trim (1-3) 2

AUB 5202 Auto Renewal: Upon completion of this course, students should be able to clean and repaint engines, clean and dye seats and doors, clean and dye headliners and carpets, renew trunk and engine compartments, buff and polish exterior surfaces, clean and restore chrome, and clean and dress vinyl tops and convertible tops. (1-3) 2

***AUB 5215 Automotive Body Repair Co-Op:** Upon completion of this course, students should be able to apply skills acquired in auto body repair courses to actual working situations in the auto body repair industry, produce a work log sheet containing the types and number of job tasks completed in the industry during the cooperative work experience, and demonstrate exemplary attendance and work habits.
*Prerequisite: Minimum of two quarters of Automotive Body Repair program courses (0-20) 2

***AUB 5235 Special Finishes:** Upon completion of this course, students should be able to spray paint a vinyl top, paint trunk compartments, paint plastic parts, pinstripe, use various custom paints, mask and stripe for special effects, and use an air brush properly.
*Corequisites: AUB 5431, AUB 5233 (1-3) 2

AUB 5303 Estimating Auto Body Damage: Upon completion of this course, students should be able to read a crash estimating guide, prepare a damage estimate, interpret an estimate, estimate straight time costs, identify unibody and conventional auto body parts, and analyze damage repairs on actual vehicles. (2-2) 3

***AUB 5344 Body Shop Applications I:** Upon completion of this course, students should be able to use all techniques covered in the previous Automotive Body Repair courses and make actual collision repairs using the same methods and practices as recommended by the automobile manufacturers and related industry.
*Prerequisite: All AUB-prefix courses first three quarters (0-9) 3

***AUB 5345 Body Shop Applications II:** This is a continuation of AUB 5344.
*Prerequisite or corequisite: AUB 5344 (0-9) 3

***AUB 5346 Body Shop Applications III:** This is a continuation of AUB 5345.
*Prerequisite or corequisite: AUB 5345 (0-9) 3

***AUB 5347 Body Shop Applications IV:** This is a continuation of AUB 5346.
*Prerequisite or corequisite: AUB 5346 (0-9) 3

***AUB 5401 Panel Replacement and Adjustments:** Upon completion of this course, students should be able to remove damaged sheet metal panels and adjust them properly to the adjacent panels; use an air chisel; install partial panels, patch panels and full panels; use pop-rivets; and use a panel spotter and wire feed welder.
*Prerequisite: WLD 5250; Corequisite: AUB 5600 (2-6) 4

***AUB 5402 Enamel Painting:** Upon completion of this course, students should be able to sand and prepare a car for painting; spray paint using various types of paints, acrylic lacquers, acrylic enamels, polyurethane enamels, acrylic urethane enamels, basecoat/clear coat; and identify paint problems.
*Corequisite: AUB 5431 (2-6) 4

AUB 5412 Frame and Unitized Body Alignment: Upon completion of this course, students should be able to use frame gauges, use hydraulic tools for straightening auto body damage, align body openings, describe the types of major frame damage, tie down a car, and use a frame machine to straighten frame damage. (2-6) 4

AUB 5431 Paint Equipment and Preparation: Upon completion of this course, students should be able to disassemble, clean, and reassemble a paint spray gun; maintain a spray paint system; select spray paint equipment; sand and mask a car in preparation for painting; use the basic techniques of spray painting; mix and spray undercoats, sealers, and various kinds of paint systems; and prepare various panels for topcoat applications. (2-6) 4

AUB 5600 Metal Finishing with Plastic and Fiberglass Fillers: Upon completion of this course, students should be able to shrink sheet metal; use a hammer and dolly; rough out and fill dents; finish dents with plastic fillers, metallic fillers, and fiberglass fillers; fill rusted-out areas with fiberglass cloth and fiberglass mat; and use grinders, sanders, and related tools. (3-9) 6

AUT – Automotive Technology

***AUT 4100 Port Type Fuel Injection (PFI):** Upon completion of this course, students should be able to describe the operation, diagnose problems, disassemble, repair as necessary, and reassemble typical port fuel injection systems. This course is part of AUT 4506.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of the Program Director (0-2) 1

***AUT 4105 Computer Controlled Carburetion Systems:** Upon completion of this course, students should be able to describe the operation and diagnose problems in typical computer controlled carburetion systems. This course is part of AUT 4506.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of the Program Director. (1-0) 1

***AUT 4200 Throttle Body Fuel Injection (EFI):** Upon completion of this course, students should be able to describe the operation and diagnose problems in typical throttle body electronic fuel injection systems. This course is part of AUT 4506.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of the Program Director (2-0) 2

***AUT 4300 Automotive Emissions Systems:** Upon completion of this course, students should be able to describe the operation of emission control systems used on current production automobiles and light trucks; describe federal, state, and local laws relating to emissions standards; troubleshoot, test, and service emissions control systems.
*Prerequisites: AUT 5405, AUT 5415, AUT 5416, or permission of the Program Director (2-2) 3

***AUT 4308 Manual and Automatic Power Trains Applications**: Upon completion of this course, students should be able to describe the flat rate hour system; diagnose and make basic repairs in all automotive power train systems; discuss and solve service, management, and customer relations problems.
*Prerequisites:AUT 5425, AUT 5426, AUT 5427 (1-6) 3

AUT 4311 Automotive Brake Systems: Upon completion of this course, students should be able to describe the operation and repair of drum brakes, disc brakes, brake hydraulic systems, parking brakes, power brake systems including vacuum boost, hydra-boost, electrically-powered boost systems, and anti-lock brakes. (2-2) 3

***AUT 4402 Auto Instrumentation and Chassis Electrical Systems:** Upon completion of this course, students should be able to describe the operation and circuitry involved in automotive instrumentation, describe the operation and related circuitry in chassis electrical components, troubleshoot and service automotive instruments and chassis electrical components.
*Prerequisites: AUT 5415, AUT 5416, or permission of the Program Director (3-2) 4

AUT 4407 Automotive Engine Electrical Systems I: Upon completion of this course, students should be able to describe the electrical theory of operation and construction, disassemble, repair, reassemble, and test late model alternators, starters, and ignition systems. (2-4) 4

***AUT 4408 Gasoline Combustion Engines II:** Upon completion of this course, students should be able to remove and replace engine assembly; perform head and valve train diagnosis and grind valves; perform the following in-frame engine tasks: remove and replace heads, remove and replace timing chains, belts and gears, and remove and replace main seals and engine mounts.
*Prerequisite: AUT 4415 (2-4) 4

***AUT 4409 Automotive Engine Electrical Systems II:** Upon completion of this course, students should be able to describe electrical troubleshooting procedures, operate automotive engine electrical diagnostic equipment, and perform engine performance and engine electrical diagnostic procedures on vehicles.
*Prerequisite: AUT 4407 (2-4) 4

AUT 4411 Auto Manual Power Train Systems: Upon completion of this course, students should be able to describe the operation and construction, disassemble, repair, and reassemble three-, four-, and five-speed manual transmissions, transaxles, drivelines, and differential units. (2-4) 4

AUT 4412 Automotive Suspension and Steering Systems: Upon completion of this course, students should be able to disassemble, repair, and reassemble manual and power steering components, front and rear suspension units; check and adjust front and four-wheel alignment angles; and balance wheels. (2-4) 4

AUT 4413 Automotive Automatic Transmissions: Upon completion of this course, students should be able to describe the principles of operation and fluid flow of an automatic transmission; and they should be able to disassemble, repair, and reassemble late model rear drive automatic transmissions. (2-4) 4

AUT 4414 Automotive Climate Control Systems: Upon completion of this course, students should be able to describe the operation of automotive heating and air conditioning systems including electrical, electronic, and mechanical controls; service and repair the systems; describe safety precautions in handling refrigerants and servicing pressurized heating and air conditioning systems; and operate refrigerant recycling equipment. (2-4) 4

AUT 4415 Gasoline Combustion Engines I: Upon completion of this course, students should be able to describe the principles of operation of intemal combustion engines; disassemble, measure parts, reassemble and run selected late model engines; and adjust engines to manufacturer's specifications. (2-4) 4

***AUT 4416 Automotive Automatic Transaxles:** Upon completion of this course, students should be able to describe the operation and construction, disassemble, repair, reassemble, and diagnose problems in automatic transaxles and automatic overdrive transmissions. This course helps students develop problem solving and critical thinking skills.
*Prerequisite: AUT 4413 (2-4) 4

AUT 4417 Automotive Fuel Delivery Systems: Upon completion of this course, students should be able to describe the method of operation and construction of carburetors, fuel injection systems, fuel pumps and intake systems; and they should be able to disassemble, repair, and reassemble late model carburetors. (2-4) 4

***AUT 4501 Automotive Electronics:** Upon completion of this course, students should be able to describe conventional current theory; solve series, parallel and series-parallel circuit problems; use analog and digital meters to wire and troubleshoot electronic circuits; describe semi-conductors and electrical sensors as they are used in automotive computer systems; and read and interpret wiring diagrams. This course helps students develop problem solving and critical thinking skills.
*Prerequisites: AUT 5403, AUT 5415, AUT 5416, or permission of Program Director (4-2) 5

***AUT 4506 Computer Controlled Fuel Systems:** Upon completion of this course, students should be able to describe the operation, diagnose problems, disassemble, repair, and reassemble typical fuel injection and computer controlled carburetion systems.
*Prerequisites: AUT 5205, AUT 5415, AUT 5405, or permission of Program Director (4-2) 5

***AUT 5205 Fundamentals of Computer Controlled Fuel Systems**: Upon completion of this course, students should be able to discuss the operation of typical automotive onboard computers, describe automotive computer input and output devices, and use diagnostic troubleshooting charts to describe troubleshooting procedures in typical computer-controlled fuel systems.
*Prerequisite: AUT 5405 or permission of Program Director (2-0) 2

AUT 5212 Electrical Testing: Upon completion of this course, students should be able to operate basic automotive electrical diagnostic equipment, demonstrate use of shop manuals, and demonstrate an understanding of automotive and truck wiring systems. (1-3) 2

***AUT 5295 Auto Mechanics Co-Op:** Upon completion of this course, students should be able to produce a master work log sheet containing the various types and number of job tasks completed in an automotive service business during this cooperative work experience and demonstrate the acquired skills to make the transition from the classroom and lab to an actual job in the automotive industry with little or no difficulty.
*Prerequisite: Fourth quarter standing in Automotive Technology/Mechanics programs (0-20) 2

***AUT 5307 Electrical Fuel and A/C Systems Applications:** Upon completion of this course, students should be able to perform tasks required in the service and repair of automotive electrical, fuel, and air conditioning systems. Tasks will be performed on live vehicles using manufacturers' recommended procedures. This course helps students to develop problem solving and critical thinking skills. Evaluation will be based on accuracy and proficiency using flat rate time as a factor.
*Prerequisites: AUT 5405, AUT 5415, AUT 5416, AUT 5454 (1-6) 3

***AUT 5308 Brakes, Steering and Suspension Systems Applications:** Upon completion of this course, students should be able to perform tasks required in the service and repair of automotive suspension, steering, and braking systems. Tasks will be performed on live vehicles using manufacturers' recommended procedures. Evaluation will be based on accuracy and proficiency using flat rate time as a factor.
*Prerequisite: AUT 5311, AUT 5404 (1-6) 3

AUT 5311 Brake Systems: Upon completion of this course, students should be able to describe the operation and repair drum brakes, disc brakes, brake hydraulic systems, parking brakes, and power brake systems including vacuum boost, hydra-boost and electrically-powered boost, and anti-lock brakes. (2-3) 3

***AUT 5321 Auto Dealer Co-Op I:** Upon completion of this course, students should be able to produce and describe a master work log sheet containing the various types and number of job tasks completed in an automotive service agency during this cooperative work experience and demonstrate the acquired skills to make the transition from the classroom and lab to an actual job in the automotive industry with little or no difficulty. The work experience emphasis will be in the area of minor engine repair and brake work.
*Prerequisites: AUT 4415, AUT 4417, AUT 4407, AUT 4311 (0-30) 3

***AUT 5322 Auto Dealer Co-Op II:** This course is a continuation of AUT 5321 Automotive Dealer Co-Op I, but the work experience emphasis will be in the area of diagnosis and repair of electrical / electronic systems and major engine repair.
*Prerequisites: AUT 4409, AUT 4501, AUT 4408 (0-30) 3

***AUT 5323 Auto Dealer Co-Op III:** This course is a continuation of AUT 5322 Automotive Dealer Co-Op II, but the work experience emphasis will be in the area of brake, steering and suspension systems diagnosis and repair and computerized engine control systems diagnosis and repair.
*Prerequisites: AUT 4412, AUT 4506, AUT 4300, AUT 4311 (0-30) 3

***AUT 5324 Auto Dealer Co-Op IV:** This course is a continuation of AUT 5323 Automotive Dealer Co-Op III, but the work experience emphasis will be in the area of manual transaxle and automatic transmission diagnosis and repair and body electrical diagnosis and repair.
*Prerequisites: AUT 4413, AUT 4402 (0-30) 3

AUT 5401 Internal Combustion Engines I: Upon completion of this course, students should be able to describe engine components and operation; disassemble, measure parts for excessive wear, reassemble, and run selected automobile engines; and make necessary adjustments according to manufacturers' specifications. (2-6) 4

***AUT 5402 Internal Combustion Engines II:** Upon completion of this course, students should be able to perform the following in-chassis engine service: remove and replace the following parts on the engine: head gasket(s), front crankshaft seal, rear crankshaft seal; remove and replace timing chain, gear, or belt; grind valves and reface seats on cylinder heads; and make necessary adjustments according to manufacturers' specifications.
*Prerequisite: AUT 5401 (2-6) 4

AUT 5403 Basic Calculations for Auto and Diesel Technicians: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems related to the automotive field; use the functions of ratio and proportion to solve gear, crankshaft and pulley problems; read a scale, micrometer and feeler gauge accurately; use area and volume formulas; apply angular and geometric measurement to cylinder, chassis and flywheel problems; understand scale measurement; and discuss measurement in terms of the metric system as well as the English system. (4-0) 4

AUT 5404 Steering and Suspension Systems: Upon completion of this course, students should be able to describe the operation of and repair the following components: manual and power steering, front and rear suspension units; check and adjust front and four-wheel alignment angles; and balance wheels. (2-6) 4

AUT 5405 Basic Automotive Fuel Systems: Upon completion of this course, students should be able to disassemble, describe the operation, repair, and reassemble major manufacturers' carburetors; describe the operation and construction of carburetors, fuel pumps, intake and exhaust systems; and perform typical carburetor adjustments on the car. (2-6) 4

AUT 5415 Electrical Systems I: Upon completion of this course, students should be able to disassemble, repair, reassemble, and test automobile alternators, starters, distributors and electrical accessories and describe the operation and construction of the above automobile components. (2-6) 4

***AUT 5416 Electrical Systems II**: Upon completion of this course, students should be able to operate automotive electrical diagnostic equipment and perform the procedures used for a major automotive tune-up on typical vehicles.
*Prerequisite: AUT 5415 (2-6) 4

AUT 5425 Power Train Systems I: Upon completion of this course, students should be able to describe the operation, disassemble, repair, and reassemble the following components: clutches, manual transmissions (three-, four-, and five-speed), manual transaxles, drive lines, and differential units. (2-6) 4

AUT 5426 Power Train Systems II: Upon completion of this course, students should be able to describe the operation, diagnose problems, and repair late model automatic transmissions.

***AUT 5427 Power Train Systems III:** Upon completion of this course, students should be able to describe the mechanical power flow and trace the hydraulic oil flow in automatic overdrive and automatic transaxle transmissions; and they should be able to diagnose problems, disassemble, repair, and reassemble automatic overdrive and automatic transaxle transmissions. This course helps students develop problem solving and critical thinking skills.
*Prerequisite: AUT 5426 (2-6) 4

AUT 5454 Automotive Heating and Air Conditioning: Upon completion of this course, students should be able to describe the operation of automotive heating and air conditioning systems, including electrical, electronic, and mechanical controls; demonstrate competencies in the testing, service, and repair of the systems and system components; describe the safety precautions that must be taken when handling refrigerants and servicing pressurized heating and air conditioning systems; and operate refrigerant recycling equipment. (2-6) 4

BAF – Banking and Finance

BAF 3300 Commercial Lending: Upon completion of this course, students should be able to describe the lending function of a commercial bank, prepare financial reports using acceptable formats, explain loan department functions and interaction with loan customers, apply the steps in the decision process as it involves structuring the loan, apply proper procedures in problem loans, manage the loan portfolio, and explain the influence of regulations. This course covers both the technical side of lending as well as the human relations skills needed. (3-0) 3

BAF 3301 Principles of Banking: This course touches on nearly every aspect of banking from the fundamentals of negotiable instruments to contemporary issues and developments within the industry. Upon completion of the course, students should understand the basic functions and operations of a bank, the management of funds, control systems, and regulations and regulatory systems for a commercial bank.(3-0) 3

BAF 3302 Law and Banking: Principles: This course is designed to equip students with a non-technical understanding of all aspects of the legal system that directly affect banks. Upon completion of this course, students should be able to describe the court system and civil procedures, define consumer protection, describe and explain negotiable instruments and secured transactions. (3-0) 3

BAF 3303 Money and Banking: This course presents a fundamental treatment of how money functions in the U.S. and world economies. Upon completion of the course, students should be able to explain how various types of financial institutions operate, describe the Federal Reserve System, define monetary and fiscal policies and their impact on financial markets and banks, and better understand trends and issues in banking. (3-0) 3

***BAF 4284 Cooperative Work Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career as full-time employees.
*Prerequisite: Permission of Co-op staff and Department (0-20) 2

BAF 4303 International Banking: This course covers basic topics such as foreign exchange, collections, letters of credit and other documents used in international markets and the Eurodollar market. Upon completion of this course, students should be able to describe the basic framework and fundamentals of international banking, explain how money is transferred from one country to another, discuss the methods of financing international trade, and list and describe the international agencies involved with currency markets.(3-0) 3

BAF 4309 Consumer Lending: This course emphasizes pragmatic "how-to's" that detail the many types of credit arrangements in which a finance charge is paid for the privilege of repaying debts in delayed payments. Upon completion of this course, students should be able to identify collection policies and procedures, explain principles of credit evaluation, describe marketing bank services, define open-end credit, identify direct lending, explain the leasing of consumer goods, identify the legal aspects of installment credit, identify rate structure and yield analysis, describe indirect lending, explain insurance for installment lending, and use appropriate techniques in organizing and managing an installment loan department. (3-0) 3

BAF 4310 Bank Investments and Funds Management: This course presents the factors that affect investment strategies and decisions grounded in a framework of fundamental investment concepts such as risk, liquidity, and yield. The basic characteristics of the major types of bank investments are studied, along with the relationship of investment management to other areas of banking and the national economy. Upon completion of this course, students should be able to identify and describe securities; define revenue bonds, money market investments, securities markets; explain short-term and long-

term investment objectives; identify tax factors in bank investment; explain primary and secondary reserves; and define investment accounts and maturity strategies. (3-0) 3

BAF 4312 Marketing for Bankers: This course provides a thorough study of basic marketing principles and theories and their practical application to the banking industry. Upon completion of this course, students should be able to recognize consumer motivation and buying behavior and apply marketing information and research to this area of banking; identify and explain the marketing management process (analysis, formulation of a master marketing strategy, performance monitoring and evaluation); demonstrate knowledge of marketing as it relates to the wholesale side of banking; and describe the significance of public relations and communications to the banking industry. (3-0) 3

BAF 4313 Law and Banking: Applications: This course introduces the student to laws pertaining to secured transactions, letters of credit and the bank collection process. Upon completion of the course, students should be able to describe and apply the legal aspects of bank operations to these activities: check handling and payment procedures, deposit and collection, commercial paper. (3-0) 3

BAF 4314 Real Estate Finance: Upon completion of the course, students should be able to identify sources of mortgage credit; demonstrate knowledge of federal assistance in the mortgage market; demonstrate knowledge of financing single-family homes, condominiums, industrial and agricultural properties and shopping centers; conduct analyses of mortgage credit and real estate investment; describe collection policies and procedures; identify and use forms and documents to process mortgage loans; and identify trends in real estate financing. (This course is not acceptable for the real estate broker prelicensing requirement.) (3-0) 3

BAF 4316 The Trust Business: This course provides an overview of the trust department. Upon completion of this course, students should be able to explain the role of the trust department in a commercial bank and how it fits into the bank's overall operations, identify the services provided and how they are delivered, and describe the changing role of the trust department. (3-0) 3

BAF 4320 Deposit Operations: This course provides an overview of the U.S. payments systems. Emphasis is placed on systems rather than on product or instrument. Upon completion of this course, students should be able to explain how banks operate relative to their deposit-taking activities and management of deposited funds, describe the impact of the external environment on the way banks operate, demonstrate a knowledge of government rules and regulations, and discuss changing trends of payment mechanisms. (3-0) 3

BAF 4322 Trust Operations: Upon completion of this course, students should be able to use and understand basic trust terminology, discuss the concepts and ideas that comprise the various trust functions and translate them into workable procedures, identify the types of trust accounts and services, explain the management and operation of trust services, apply the fundamentals of trust accounting in cash transactions and asset/liability transactions, describe the internal controls relevant to trusts, and perform tasks necessary in trust account reporting. (3-0) 3

BAF 4324 Securities Processing: Upon completion of this course, students should be able to describe the types of securities-related activities open to banks; identify laws and regulations that govern securities trading; perform specific securities processing activities; administer consumer and corporate accounts, as well as the bank's own investment portfolio. (3-0) 3

BIO – Biology

BIO 1500 Biological Science: This is a foundation course designed to introduce selected fundamental biological principles. Upon completion of this course, students should be able to demonstrate an understanding of the following topics: the cell, transport mechanisms, reproduction, genetics, development, photosynthesis, respiration, ecology, plant and animal diversity, and evolution. (3-4) 5

BIO 1501 General Botany: This is an introductory study of plants. Upon completion of this course, students should be able to demonstrate a knowledge of the following topics: plant cell structure and function, taxonomy, reproduction, genetics, mineral nutrition, and ecology. (3-4) 5

BIO 1502 General Zoology: This is an introductory study of the major groups of animals. Upon completion of this course, students should be able to demonstrate knowledge of animal anatomy, physiology, homology, ecology, life histories, classification, and evolution. (3- 4) 5

BIO 1503 Microbiology: This is an introduction to the world of microorganisms—bacteria, viruses, fungi, protozoa, and Rickettsia—with emphasis upon bacteria. Students, upon completion of this course, should have gained knowledge of the structure of microorganisms, interrelationships among them, factors influencing their growth, and how they affect humans. (3-4) 5

BIO 1504 Human Anatomy and Physiology I: This is an introductory course in the normal structure and function of human body systems, emphasizing inter-relationships of each. Upon completion of this course, students should be able to demonstrate knowledge of the following: cellular biology; tissues; skeletal, muscular, and nervous systems; and sense organs. (3-4) 5

***BIO 1505 Human Anatomy and Physiology II:** This is a continuation of BIO 1504 with emphasis on the following systems: circulatory, respiratory, digestive, endocrine, reproductive, and urinary, including the mechanisms of acid base and water-electrolyte balance.
*Prerequisite: BIO 1504 or consent of Department Head (3-4) 5

BIO 1506 Pathophysiology: This is a course designed to meet the needs of nursing students. Upon the completion of the course, the student should be able to outline physiologic mechanisms for stress adaptation, state the pathologic origins of common disease states, describe the physiology of common alterations in health states, and identify clinical manifestations of common disease states.
*Prerequisite: BIO 1503 and BIO 1505. (5-0) 5

BIO 2134-2534 Selected Topics in Biology: These courses are offered in order to comply with the needs of students who want subject matter not included in other courses offered by the Department. Upon completion of this course, students should have an understanding of such courses as: animal behavior, marine biology, general ecology, embryology, histology, exercise physiology, parasitology, physiology, crop plants, local flora, plant anatomy, and plant morphology. 1-5 hrs. credit - TBA

BIO 2300 Genetics: This is a study of the fundamental laws of heredity with emphasis on human heredity. Having completed this course, students should be able to demonstrate a working knowledge of the behavior of chromosomes and genes, mutation and chromosomal abnormalities and quantitative inheritance, evolution, population genetics, environment and heredity, and eugenics. (3-0) 3

BIO 2304 Human Nutrition: Upon completion of this course, students should be able to identify sources and functions of nutrients, relating them to the life cycle, and have a basic understanding of principles of interviewing relating to nursing. (3-0) 3

BIO 2308 Nutrition and the Young Child: Upon completion of this course, students should be able to identify sources and functions of nutrients, describe and use standards for evaluating the nutritional adequacy of food intake, describe factors which influence food habits, outline food requirements of young children, plan menus as well as methods of food preparation appropriate for children, and write nutrition education activities for the child and for the parent of young children. (3-0) 3

BIO 2500 Introduction to Entomology: This is a basic course designed to give a practical approach to the study of insects. Upon completion of this course, students should be able to demonstrate a knowledge of the fundamentals of insect identification, development, food habits, and controls. (3-4) 5

BIO 2501 Ornithology: This is an introduction to the study of birds. Upon completion of this course, students should be able to demonstrate knowledge of anatomy, physiology, ecology, life histories, behavior, evolution, and the identification of birds. (3-4) 5

BIO 3404 Cardio-Pulmonary Anatomy and Physiology: This is a specialized course providing an in-depth study of cardiovascular and respiratory functions and their interrelationships. Upon completion of this course, students should be able to demonstrate an understanding of circulatory and respiratory anatomy and physiology. Emphasis is placed on the interpretation of blood-gas measurements. (3-2) 4

BIO 3500 Basic Health: This is an introductory course in the normal structure and function of the human body. Upon satisfactory completion of the course, the students should be able to demonstrate knowledge of the anatomy, physiology, and interrelationships of cells-tissues, and knowledge of the following systems: skeletal, muscular, circulatory, respiratory, urinary, nervous, integumentary, digestive, endocrine, and reproductive. The course also includes the study of basic principles of science and selected principles of microbiology. (4-2) 5

BIO 9500: See page 46.

BUS – Business

BUS 1500 Introduction to Business: This course is designed to prepare the student to apply critical thinking to the solution of business problems and challenges. An overview of the business environment from an educational and functional standpoint will be provided. Upon completion of this course, the student should be able to describe the legal and economic environment of business, discuss the basic types of internal and external business forms, describe the functions of business, and describe the role of management in a business enterprise. (5-0) 5

BUS 2304 Business Law I: This course covers legal environment and common law contracts. Upon completion of this course, students should be able to explain the sources of American law and how laws are classified; outline the structure of the federal and state court systems; differentiate business torts and crimes; list the steps in the progress of a lawsuit; analyze ethical issues in business contexts; discuss the law involved in business transactions; list the elements of a common law contract and understand the artificial legal language involved; recognize rights of third parties to contracts; analyze when a contract has been breached; and understand methods of terminating rights under a contract. (3-0) 3

***BUS 2305 Business Law II:** This course covers the Uniform Commercial Code and other business laws. Upon completion of this course, students should be able to demonstrate a working knowledge of commercial paper and secured transactions; recognize and define a sale of goods; differentiate between common law contracts and those under Article II of the UCC; apply various common terms such as FOB, COD, sale or return, sale on approval to various situations and recognize which party has the risk of loss, as well as apply the rules for performance of a sales contract; recognize and distinguish various types of warranties; discuss the various terms and forms applicable to secured transactions; distinguish negotiable instruments from ordinary contracts; recognize a holder in due course; and demonstrate a general knowledge of bank-customer relations.
*Prerequisite: BUS 2304 or consent of Department Head (3-0) 3

***BUS 2306 Business Law III:** Upon completion of this course, students should be able to distinguish agency from other relationships; list the different ways to create the agency relationship; define the various types of authority; list the various ways the agency relationship can be terminated; list and explain the rights and liability of partners; define the causes and grounds for dissolution of the partnership; distinguish a corporation from other forms of business organizations; discuss dissolution, merger, consolidation and other corporate acquisitions; list the various rights of stockholders; differentiate between a stockholder's role and a director's role in corporate management; and study the Securities Act of 1933, the Securities Exchange Act of 1934, and antitrust legislation.
*Prerequisite: BUS 2304 or consent of Department Head (3-0) 3

BUS 3300 Human Relations: This course is primarily designed to allow students to learn and practice skills which enhance effective interactions in the work environment. Upon completion of this course, students should be able to define and trace the development of the human relations field, communicate effectively, explain and apply motiva-

tional techniques, understand and apply their own creative potential, recognize job stress and develop strategies for coping with stress, resolve various job conflicts, discuss ego states and life scripts, and describe the behavioral implications of a personality profile. (3-0) 3

***BUS 3304 Business Statistics I:** Upon completion of this course, students should be able to differentiate between descriptive and inferential statistics, calculate measures of central tendency and variability, employ "z" tables, discuss probability theory and its uses, construct and use sampling distributions.
*Prerequisite: FIN 3315 or FIN 3330 or MAT 3504 (3-0) 3

***BUS 3305 Human Relations II:** Upon completion of this course, students should be able to explain the dynamics of working within groups, conduct a meeting effectively, counsel a subordinate about a problem and develop a plan for improvement, explain the various leadership styles and select the appropriate one for given situations, identify strategies for coping with problems in bureaucracies, summarize a variety of programs designed to improve quality of work life, describe strategies for overcoming resistance to change, and develop a career plan.
*Prerequisite: BUS 3300 (3-0) 3

***BUS 4201 Cooperative Work Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands of the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-Op Office (0-20) 2

***BUS 4202 Cooperative Work Experience II:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands of the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: BUS 4201 (0-20) 2

CHM – Chemistry

***CHM 1500 Introductory Chemistry:** This is an introductory course with laboratory experiences designed for students with little or no background in chemistry. Upon completion of this course, students should be able to demonstrate an understanding of some of the basic concepts of chemistry: measurements, significant figures, structure of the atom, mole problems, bonding, nomenclature, solutions, reactions, and stoichiometry.
*Prerequisite: Placement examination in math, or MAT 9510, or consent of Department Head (4-2) 5

***CHM 1501 Chemistry for the Health Professions I:** A general chemistry course and introduction to organic chemistry designed for students preparing for a career in nursing or for liberal arts majors. Upon completion of this course, students should be able to demonstrate an understanding of basic chemical principles such as: structure of the atom, bonding, types of compounds, chemical reactions, stoichiometry, states of matter, solutions, gas laws, equilibrium, acids, bases, buffers, hydrocarbons, and nomenclature.
*Prerequisite: CHM 1500 or consent of Department Head (4-2) 5

***CHM 1502 Chemistry for the Health Professions II:** A continuation of CHM 1501 in which properties and reactions of the functional groups in organic chemistry are studied. Upon completion of this course, students should be able to demonstrate an understanding of the chemistry of carbohydrates, lipids, proteins, nucleic acids, enzymes, metabolism, protein synthesis, and the significance of equilibrium in comprehending biochemistry.
*Prerequisite: CHM 1501 or consent of Department Head (4-2) 5

***CHM 1504 General Chemistry I:** This is a study of the fundamental principles and laws of chemistry with emphasis on the relationship of atomic structure to physical and chemical properties of the elements. Individualized lab experiments deal with the verification of chemical laws and the development of problem solving skills. Applications of chemical principles will be made in the area of environmental problems such as energy and pollution. After completing this course, students should be able to apply the scientific method in problem solving; demonstrate the basic laboratory techniques for successfully and safely conducting chemical experiments; solve problems and demonstrate an understanding and appreciation of certain chemical laws, principles, concepts and theories such as metric system, atomic structure, laws of chemical combinations, stoichiometry, gas laws, kinetic molecular theory, theories of chemical bonding, and nomenclature.
Note: The following students should take the CHM 1504, CHM 1505, CHM 1506 sequence: students with major emphasis in chemistry, forestry, agriculture, dentistry, optometry, paramedics, medics, medicine, pharmacy, nursing (B.S.degree), geography, textiles, chemical engineering, geology, biology, and any other areas of science and math.
*Prerequisite: Placement examination in chemistry, or a grade of C or better in High School Chemistry (within the last two years), or CHM 1500 (3-4) 5

***CHM 1505 General Chemistry II:** This is a continuation of CHM 1504, with emphasis on chemical equilibrium, kinetics, solution stoichiometry, acid-base theories, and electrochemistry. Some chemical application will be made in the areas of environmental problems, biological systems and industrial processes. After completing this course, students should be able to solve problems dealing with systems in equilibrium; solve solution problems; recognize and apply various acid-base theories to chemical equations; demonstrate an understanding of such things as redox potentials, reactions kinetics, colligative properties of solutions, and enthalpy changes.
*Prerequisite: CHM 1504 or consent of Department Head (3-4) 5

***CHM 1506 General Chemistry III:** This is a continuation of CHM 1505 with emphasis on ionic equilibrium and relating

chemical properties to atomic and molecular structures. Included is an introduction to organic chemistry. Enthalpy and entropy changes are related to both ionic and molecular reactions. Both qualitative and quantitative analysis, with the use of some instrumentation, are included. Applications are made to biological systems and to environmental problems. Upon completion of this course, students should be able to demonstrate an understanding of ionic equilibrium by solving various problems dealing with pH, hydrolysis, Ksp, buffers, redox titration, and acid-base titrations. Students should be able to relate chemical and physical properties of common elements and ions to the periodic table and show well-developed lab techniques in experiments involving quantitative analysis.
*Prerequisite: CHM 1505 or consent of Department Head
(3-4) 5

***CHM 2124-2524 Special Problems:** This is an advanced problem course of independent study in which a student and advisor select an appropriate topic for laboratory and library research in the field of chemistry. After completing this course, students should be able to conduct a successful library and lab research project in chemistry and present the results in proper written form.
*Prerequisite: CHM 1506 or consent of Department Head
1 to 5 class hrs/week. 1 to 5 hrs credit.TBA

***CHM 2414 Introductory Organic Chemistry:** This is an introductory organic chemistry course with a review of certain laws, principles and facts from general chemistry that are fundamental to organic chemistry, such as atomic structure, bonding, and acid-base theories. It is a survey course for both the science and the non-science student. Synthesis of selected compounds and their characterizations will be completed in lab with an introduction to stereochemistry. Chemical and physical properties of various compounds and common functional groups are related to their structure. Nomenclature and practical applications to related fields are emphasized. Upon completion of this course, students should have enough basic knowledge of organic chemistry to be successful in a higher level organic course, should be able to apply the learning to other fields of study such as biology, should be able to relate the knowledge to the real world and to complete basic organic lab experiments successfully in a safe manner.
*Prerequisite: CHM 1505 with a C grade or better or consent of Department Head (3-2) 4

***CHM 2604 Quantitative Chemical Analysis:** This is a quantitative analysis course using both the traditional volumetric and gravimetric method along with instrumentation. The instruments used may include calorimeter, potentiometer, infrared, UV-visible, and atomic absorption. Chromatography will be used as a separation technique. Much emphasis will be placed on problem-solving skills and safe lab techniques.
*Prerequisite: CHM 1506 or or consent of Department Head
(3-6) 6

***CHM 2614 Organic Chemistry I:** This is a systematic study of the theories, principles and techniques of organic chemistry and their application to reactions of aliphatic and aromatic compounds and natural products. Reaction mechanisms are emphasized. Some chemical applications are made to environmental problems and to industrial processes. Laboratory work includes purification, characterization, and synthesis of organic compounds with emphasis on the improvement of scientific problem-solving skills. After completing this course, students should be able to name the common members of the families of organic compounds and describe their chemical and physical properties, demonstrate a working knowledge of organic synthesis of the compounds studied based on reaction mechanisms, perform common organic lab experiments in a safe manner using proper techniques, and recognize and describe simple chemical tests for certain functional groups.
Note: Students with major emphasis in science and engineering including: dentistry, optometry, medicine, paramedics, engineering (chemical, petroleum, sanitation, environmental), pharmacy, textiles, chemical technology, chemistry, and biology should take the organic sequence.
*Prerequisite: CHM 2414 or or consent of Department Head
(4-4) 6

***CHM 2615 Organic Chemistry II**: This is a continuation of CHM 2614 with a greater emphasis on instrumental analysis in the laboratory. Introduction to biochemistry is included. After completing this course, students should be able to identify some unknown organic compounds using NMR, UV, IR, and mass spectra. They should be able to recognize the chemical properties of the common functional groups and should have well-developed lab techniques as demonstrated in the identification and synthesis of certain organic compounds.
*Prerequisite: CHM 2614 or or consent of Department Head
(4-4) 6

***CHM 3501 Respiratory Care Chemistry**: This is a one-quarter course designed for students in the Respiratory Care program. It is basically general chemistry with focus on biochemical applications. Upon completion of CHM 3501, students should be able to demonstrate a working knowledge of general chemistry, especially as it applies to respiratory care topics including bonding, states of matter, solutions, gas laws, equilibrium, acids and bases, buffers, and electrochemistry.
*Prerequisite: CHM 1500 or or consent of Department Head
(4-2) 5

***CHM 3502 Dental Hygiene Chemistry**: This is a one-quarter course designed for Dental Hygiene students. It consists of general chemistry, introductory organic and biochemistry. Upon completion of CHM 3502, students should be able to show a general understanding of the structure of the atom, bonding, influence of intermolecular forces on properties, acids and bases, equilibrium, buffers, hydrocarbons, and groups in organic chemistry as well as some biochemistry with a special emphasis on carbohydrates.
*Prerequisite: CHM 1500 or or consent of Department Head
(4-2) 5

CHM 9500: See page 46.

CIV – Civil Engineering And Surveying Technology

CIV 3101 Introduction to Civil Engineering/Surveying Technology: Upon completion of this course, students should be able to employ the services and personnel available at the College to effectively meet educational and employment goals, evaluate career opportunities and develop a plan to meet their career objectives, assess their responsibilities to society and the global community, and apply critical thinking skills to analyze and solve engineering problems.
(1-0) 1

CIV 3306 Construction Materials and Methods: Upon completion of this course, students should be able to identify construction materials and their physical properties, discuss the manufacturing processes used to produce common building materials, identify types of construction equipment and the application of this equipment, explain the methods used to assemble building components, and evaluate the actual application of construction techniques. (2-3) 3

***CIV 3314 Structural Drafting (CAD):** Upon completion of this course, students should be able to explain how a CAD system may be used to produce structural drawings; apply critical thinking and problem solving skills to the layout and drawing of concise structural drawings which clearly specify all essential fabrication information; and prepare structural drawings for various building components constructed of steel, concrete, masonry and wood.
*Prerequisite: ARC 3314 or equivalent (1-6) 3

***CIV 3315 Structural Detailing (CAD):** Upon completion of this course, students should be able to explain how a CAD system may be used to produce structural "shop" detail drawings, apply critical thinking and problem solving skills to establish an effective layout presentation of detail drawings and explanatory notes, prepare steel fabrication and erection drawings, and prepare reinforcement placement drawings for reinforced concrete members.
*Prerequisite: ARC 3314 or equivalent, ARC 4339 or CIV 3314 (1-6) 3

***CIV 3317 Civil Drafting (CAD):** Upon completion of this course, students should be able to use CAD systems on which Civil Engineering and Surveying software is installed to draw plats of commercial and residential property, topographic maps of land areas, horizontal and vertical roadway alignments and utility layouts; subdivide land area; and compute engineering and surveying quantities associated with earthwork, hydrology, highway and land area development design problems.
*Prerequisite: ARC 3314 or equivalent, CIV 3407 (1-6) 3

***CIV 3407 Introduction to Surveying:** Upon completion of this course, students should be able to measure distances with a surveyor's tape and an electronic distance measuring instrument, apply geometric principles to correct a taped distance for a standardized measurement, use a dumpy level and electronic leveling instruments to perform differential and profile leveling field operations, perform calculations for differential and profile leveling, use a transit and theodolite to measure horizontal and vertical angles, calculate bearings and azimuths, properly prepare field notes to record data of field surveys, and collect elevation data and plot a contour map.
*Prerequisite: MAT 3507, ARC 3334 (2-6) 4

***CIV 3414 Statics:** Upon completion of this course, students should be able to describe the characteristics of forces and moments; describe the various types of force systems that can be applied to a structure; draw free body diagrams for members that make up a structure; calculate reactions and external forces; calculate the properties of mass and area for composite geometric shapes; apply the equations of statical equilibrium to determine unknown forces that exist in rigid, statically determinate structures; use microcomputers and structural software to analyze structural problems; and develop critical thinking skills that will allow students to analyze a variety of structural problems, select possible solution alternatives, assess the impact of each alternative and make an informed judgment about the solution method and the reasonableness of the solution.
*Prerequisite: MAT 3507 (3-3) 4

***CIV 3415 Strength of Materials:** Upon completion of this course, students should be able to describe the behavior of structural members when subjected to an externally applied load system; identify the types of stresses that develop in structural members; compute deformation and strain in bodies due to force systems acting on the body; draw shear and moment diagrams for structural members; compute the magnitude of the shear and moment at critical points; draw the distribution of elastic stresses and strains that occur in loaded structural members; compute the magnitude of forces, stresses, strains and deformations that take place in loaded beams, columns, tension members and connections; use microcomputer software to analyze and design structural members; and develop critical thinking skills that will allow students to analyze a variety of structural problems, select alternative solution methods, assess the impact of the alternative solution methods, and make informed judgments about the solution method and the reasonableness of the solution obtained.
*Prerequisite: CIV 3414 (3-3) 4

***CIV 4227 Microcomputer Applications:** Upon completion of this course, students should be able to use existing software to solve specialized civil engineering technology problems, describe the theory on which the software is based, explain the procedure used in the software to derive solutions, and describe the limitations of the software. Projects will be selected by each student from relevant areas of interest after consultation with the instructor.
*Prerequisite: EDP 3310, CIV 4425 (1-3) 2

***CIV 4284 Cooperative Work Experience I:** Upon completion of the course, students should be able to demonstrate a positive attitude toward and a knowledgeable understanding of careers in Civil Engineering Technology and Surveying and demonstrate results of applied experience to complement class and laboratory instruction.
*Prerequisite: 45 credit hours earned in residence toward an engineering technology or surveying technology degree and permission of the Co-op Office (0-0-20) 2

***CIV 4285 Cooperative Work Experience II:** This is a continuation of CIV 4284 Cooperative Work Experience I. Upon completion of this added work period, the expectations of Co-op I should be enlarged to derive added benefit for the Surveying Technology industry.
*Prerequisite: CIV 4284 and permission of Co-op Office (0-0-20) 2

***CIV 4300 Codes and Contracts:** Upon completion of this course, students should be able to demonstrate a basic understanding of Volume I and Volume Ic of the North Carolina State codes, understand the basic procedures for procuring building permit and inspection of structures in North Carolina, conduct code reviews for commercial structures, recognize and use basic contract terminology and state the basic principles of contractual relationships.
*Prerequisite: CIV 3306, ARC 4200 (2-3) 3

***CIV 4302 Plain Concrete and Asphalt:** Upon completion of this course, students should be able to describe the use of Portland Cement concrete and Bituminous Asphalt concrete in highway and building construction; describe the character-

istics and construction of soil subgrades; describe the characteristics of coarse and fine aggregates used in roadway and building concretes; describe the characteristics of binding materials used in Portland Cement and Bituminous Asphalt concretes; design Portland Cement and Asphalt Cement concrete mixes based on strength and durability requirements; perform standard laboratory tests to determine the properties of subgrades, aggregates, asphalt cement, asphalt paving mixes and fresh and hardened Portland Cement concrete; and describe design methods, condition survey procedures, distress characteristics and rehabilitation methods for flexible and rigid pavement structures.
*Prerequisite: CIV 3414, Civ 4319 (1-6) 3

***CIV 4305 Construction Estimates:** Upon completion of this course, students should be able to discuss the various bid terms and contract documents as they pertain to construction projects, make a quantity take-off for labor and materials for commercial and residential construction, describe the sources of unit costs and productivity rates, apply unit costs to quantity survey results to derive the direct costs of a construction project, describe indirect costs associated with a construction project, determine overhead costs for a construction project, use approximate methods to determine construction costs, and use manual and microcomputer methods to derive a complete cost estimate for a construction project.
*Prerequisite: CIV 3306, ARC 4200 (2-3) 3

***CIV 4307 Construction Project Management:** Upon completion of this course, students should be able to define the operations comprising a construction project; establish time estimates for construction operations; determine the proper sequence of operations and coordination of building trades; apply manual and microcomputer methods to establish a construction project schedule; describe methods used to optimize a project schedule; describe systems used to manage construction resources, time and costs; understand laws and regulations dealing with the construction industry; describe federal and state safety requirements applicable to the construction industry; and describe financial management systems including claims, disputes, change orders, material control, quality control and progress payments.
*Prerequisite: CIV 4305 (2-3) 3

***CIV 4314 Construction Surveying:** Upon completion of this course, students should be able to describe basic site and construction surveying techniques; perform grid topographic surveys of building sites; locate lot corners, building corners and batterboards; and locate buildings for architectural and environmental considerations.
*Prerequisite: CIV 4407 (2-3) 3

***CIV 4315 Subdivision Planning and Design:** Upon completion of this course, students should be able to describe mapping principles and their application to subdivision planning and design; use topographic, land, hydrographic and photographic maps in subdivision planning; use photogrammetry in subdivision design; plan and design a subdivision; draw a subdivision plan using manual and computer software; and develop critical thinking and group interaction skills that allow students to analyze a variety of field problems, select possible design solution alternatives, assess the impact of each design alternative and make informed judgments about usefulness and cost effectiveness of the solutions reached.
*Prerequisite: CIV 4407, CIV 4320 (2-3) 3

***CIV 4317 Geodetic Surveying:** Upon completion of this course, students should be able to use theories and practice of Global Positioning Systems (GPS) to establish points; perform geodetic surveys including triangulation, trilateration and astronomic observation; and use the North Carolina State plane coordinate system to standardize established control points.
*Prerequisite: CIV 4414 (2-3) 3

***CIV 4319 Soils Technology:** Upon completion of this course, students should be able to describe the basic soil types and the characteristics of each; use weight/mass and volume relationships to determine soil properties; apply standard methods of laboratory testing to determine soil properties and strength characteristics; classify soils in accordance with AASHTO and Unified Soil Classifications systems; describe pressure distributions in soil masses; estimate consolidation settlements in soils; describe techniques of subsurface soil exploration; describe the types of foundation used to support structures; analyze soil pressures resulting from shallow and deep foundations; and analyze retaining structures for sliding, stability and soil pressure.
*Prerequisite: CIV 3414 (2-3) 3

***CIV 4320 Principles of Hydraulics:** Upon completion of this course, students should be able to identify the various properties of fluids, understand and apply the principles of hydrostatics to practical problems, apply the fundamentals of fluid flow in pipes and piping systems as well as open channels, and use hydrologic information in the analysis and design of hydraulic drainage systems.
*Prerequisite: CIV 3414 (2-3) 3

***CIV 4407 Route Surveying:** Upon completion of this course, students should be able to lay out foundations and give lines and grades for construction of a building; lay out cross sections of roadways and, from the sections, compute earthwork quantities and construct a Mass Diagram; calculate and stake out horizontal and vertical roadway curves; apply the methods of lines and grades to a roadway design problem; use microcomputers to solve route surveying problems; and discuss basic theory of photogrammetry and its application to roadway design.
*Prerequisite: CIV 3407 (2-6) 4

***CIV 4408 Boundary Surveying:** Upon completion of this course, students should be able to collect data for a closed traverse using a theodolite and an EDM; balance and plot a closed polygon traverse; tie locally determined traverse information into the State Plane Coordinate System; locate topography within the traverse by stadia and use of a plane table; compute areas by the coordinate method and double meridian distance method; use rectangular coordinates to inverse bearings and lengths; determine true meridian by solar or polaris observation; and develop critical thinking and group interaction skills that allow students to analyze a variety of problems, select possible solution alternatives, assess the impact of each alternative and make an informed judgment about the solution method.
*Prerequisite: CIV 3407, CIV 3317 (2-6) 4

***CIV 4414 Land Surveying:** Upon completion of this course, students should be able to use theories and practice of land surveying, including legal and technical methods, to determine property boundaries; use the County Register of Deeds office to research property records; understand the State requirements for the preparation of boundary and subdivision maps;

discuss the legal aspects of surveying based on the North Carolina Manual of Practice; perform boundary surveys and draw plats using manual and microcomputer software methods.
*Prerequisite: CIV 4407, CIV 4408 (3-3) 4

***CIV 4415 Topographic Mapping:** Upon completion of this course, students should be able to make a topographic survey, draw topographic maps using manual and computer software, use aerial photographs for mapping purposes, interpret aerial photographs, produce photo maps, and make photogrammetric calculations and produce ground control. The laboratories for this course will emphasize field and office techniques for preparing topographic maps.
*Prerequisite: CIV 4408 (3-3) 4

***CIV 4425 Structural Steel and Timber Design:** Upon completion of this course, students should be able to identify the various types of steel structures; describe the behavior of structures under load; use the AISC manual to identify the properties of various types of structural steel; use the allowable stress design method to design steel beams, columns, tension members and connections; identify the properties of wood relevant to structural design; design typical wood beams, columns and connections; and use microcomputer software to analyze and design structural members.
*Prerequisite: CIV 3415 (3-3) 4

***CIV 4426 Reinforced Concrete and Masonry Design:** Upon completion of this course, students should be able to describe the properties of reinforced concrete as it relates to structural design; identify the general requirements for reinforced concrete structures; use the provisions of the ACI code to design reinforced concrete beams, slabs and columns; discuss general considerations of foundation design and behavior; apply reinforced concrete design concepts to the design of shallow foundations; discuss the properties of masonry as it relates to structural design; and apply code requirements for the design of masonry structural members.
*Prerequisite: CIV 3415, CIV 4319 (3-3) 4

Computer Engineering Technology – See ELN

Computer and Office Information Systems – See EDP

CSC – Correctional and Juvenile Services

CSC 3500 Introduction to Corrections: Upon completion of this course, students should be able to demonstrate an understanding of corrections, probation and parole; describe how corrections, probation and parole fit into the criminal justice system; discuss the conflicting ideologies of punishment, treatment, and prevention; identify the different correctional systems of state and federal governments; and explain the various job positions available in this field. (5-0-0) 5

CSC 3501 Correctional Counseling and Treatment: Upon completion of this course, students should be able to define the various techniques in counseling and treatment programs; describe the differences and similarities used in institutional and community programs; describe the need for controlling incarcerated clients; list the methods of measuring the effectiveness of a variety of programs; identify the programs associated with the treatment of the mentally retarded, mentally ill, substance abuser, and of HIV- infected clients in the correctional setting; and describe the demands placed upon staff and clients, and the interactions that result. (5-0-0) 5

CSC 3503 Juvenile Delinquency - Theories, Causation, Prevention: Upon completion of this course, the student should be able to describe delinquency causation by the recent disciplinary studies; discuss the diversity of juvenile expressions; examine and discuss the problems juveniles have concerning peers, sexual behavior, school, drugs and alcohol; explain the conflicting theories and programs of treatment and prevention; identify the general characteristics of juvenile offenders and their subculture; review and describe present day delinquency treatment and prevention programs. (5-0-0) 5

CSC 3504 Juvenile Justice System: Upon completion of this course, students should be able to cite the history and evolution of the Juvenile Justice System; outline the present-day Juvenile Court process and procedure; identify the characteristics of juvenile offenders and their subculture; depict the process from arrest to final disposition for juvenile offenders; be acquainted with the variety of dispositions; differentiate between the adult and juvenile justice systems while understanding their ramifications; develop alternatives to incarceration; describe the conflicting theories and ideologies of treatment and prevention; identify the need for professional personnel and their respective manpower requirements; and develop the necessary attitude, empathy, and knowledge to assist in working in and with the Juvenile Justice System. (5-0-0) 5

CSC 3505 Victimology: Upon completion of this course, students should be able to explain why many victims do not report crimes; compare victims of specific crimes; explain the development of victimology as a field of study; identify victims' vulnerability and their share in the responsibility for crimes; identify and state the victims' role in the Criminal Justice System; evaluate methodological measuring of victimization; describe at least five victim assistance programs/services; identify crime prevention techniques; explain existing and pending victims' rights legislation and develop recommendations to improve conditions for victims. (5-0-0) 5

CSC 3507 Criminal Personality and Behavior: Upon completion of this course, students should be able to identify the various viewpoints of criminal behavior as described by the sciences of psychology, sociology, and psychiatry; develop a clear definition of criminal behavior; identify behavior that is normal versus that behavior which is considered anti-social; prepare a profile of a criminal type of person as defined by society; identify and evaluate treatment methods and define their rationale in dealing with criminal offenders; compare past theories of causes of criminal behavior to current research; and identify the different personalities of the following: the mentally ill, aggressively violent, homicidal, sexual offender, and female offender. (5-0-0) 5

CSC 3508 Drugs, Society, and Crime: Upon completion of this course, students should be able to identify the significant historical events in the United States that have caused an increase in drug use and abuse; define the chemical composition of drugs used by society; identify the various drug classi-

fications, list examples of each and describe their uses; define psychoactive and non-psychoactive drugs; identify and describe the North Carolina Controlled Substances Act and the Drug Paraphernalia Act; describe various ways drug use affects our society and increases the incidence of crime and identify the drugs most commonly sold illegally. (5-0-0) 5

***CSC 3509 Court Intake Procedures:** Upon completion of this course, students will be able to demonstrate interviewing techniques; describe the components and relationships of the various North Carolina courts; show by demonstration, proper courtroom decorum and etiquette through mock court; prepare a written and oral presentence report; prepare a technical report and summary.
*Prerequisite: ENG 1504 and minimum of 50 credit hours in the program (5-0-0) 5

CSC 3510 Women in the Criminal Justice System: Upon completion of this course, students should be able to discuss an overview of the history of women in the criminal justice system; identify the crimes most often committed by women in both victimless and violent crimes; state the difference and similarities between women and men offenders during arrest, trial, and sentencing in prison and treatment; list the difficulties of incarcerated mothers, conditions of prisons, and women offenders in probation, parole, and community corrections; describe theories of why women commit crimes; and identify the roles of women in the criminal justice system as judges, attorneys, police, correction officers, and problems they face. (5-0-0) 5

CSC 3520 Jail Operations and Management: Upon completion of this course, students should be able to identify the North Carolina General Statutes for the minimum standards for jails; describe the basic standard operating procedures for local confinement facilities; describe the procedures for persons brought to the jail for processing into the system; demonstrate the ability to search an incoming and resident prisoner, and describe the procedures for a shakedown of cells and general areas; identify the major responsibilities the professional jailer has toward society, the administration, and the inmates; list at least three medical crisis situations and what is required to respond; list at least five precautions when transporting prisoners; profile a composite jail suicide; and outline the procedure for medical care in jails. (5-0-0) 5

***CSC 3524 Probation and Parole:** Upon completion of this course, students should be able to discuss the origins of probation from common law through the present statutes; explain the legal rights of prisoners; describe how ordinary political and civil rights may be taken away as a result of a criminal conviction and how they may be restored; describe probation and parole revocation procedures from arrest, to hearing, through judicial review; discuss the types and kinds of conditions for probation and parole; discuss group treatment programs; and list and describe the various community resources available for the probationer and parolee.
*Prerequisite: CSC 3500 (5-0-0) 5

***CSC 4284 Cooperative Work Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as full time employees.
*Prerequisite: Permission of Department and Co-op Office (0-0-20) 2

CSC 4514 Community Based Programs: Upon completion of this course, students should be able to name and describe a wide variety of successful programs used by the courts and corrections; identify how community resources are mobilized to respond to the needs of both offenders and citizens; analyze factors that inhibit or aid the success of a program; describe the relationship between the program, the police, courts, and public; define the problems of funding politics and staff competency; explain work release, furloughs, mutual agreement contracts, and halfway house programs as alternatives to incarceration. (5-0-0) 5

CYT - Cytotechnology

CYT 5304 Introduction to Cytologic Techniques: Upon completion of this course, the student should be able to demonstrate the care and use of the microscope, cytopreparatory techniques, histologic preparatory techniques related to cytology, laboratory safety, and the operation of laboratory equipment. Also, the student should be able to explain and implement required workload accountability and quality control. (2-2-0) 3

CYT 5500 Introduction to Clinical Cytology: Upon completion of this course, the student should be able to explain the fundamentals of cell biology, basic histology, and pathology of tumors as these subjects relate to clinical cytology. In addition, the student should be able to describe inflammatory processes, microbiologic agents and their morphology and classification, and define basic clinical cytologic terminology. (5-0-0) 5

CYT 5009 Gynecologic Cytology: Upon completion of this course, the student should be able to describe the gross and microscopic anatomy and physiology of the female genital tract; identify normal cytology and hormonal states of the female genital tract, microbiological agents and their manifestations, and inflammatory states as observed in the cervicovaginal smear; describe endocrinology and endocrinopathies, recognize histopathology and identify cytology of inflammatory atypias, epithelial atypias, dysplasia and human papilloma virus, carcinoma in situ, microinvasive carcinoma, squamous carcinoma and adenocarcinoma of the uterine cervix, adenocarcinoma of the endometrium and its precursors, as well as other lesions of the female genital tract; and describe the treatment of female genital tract tumors and identify cytologic manifestations of these treatments. (15-10-0) 20

CYT 5011 Non-gynecologic Cytology I: Upon completion of this course, the student should be able to describe anatomy, physiology, and histology of the respiratory tract, urinary tract, and male genital tract, and recognize histopathology and identify cytology of inflammatory states and associated microbiological organisms as well as normal, benign, and malignant lesions of these systems; and describe treatment of these lesions and identify cytologic manifestations of these treatments. In addition the student should be able to demonstrate non-gynecologic cytopreparatory techniques. (12-8-0) 16

CYT 5501 Gynecologic Cytology Practicum I: Upon completion of this course, the student will be able to evaluate cervicovaginal smears through the practice of routine cytologic screening. The student should also be able to identify and discriminate between the normal cellular constituents, inflammatory cells, microbiologic entities, inflammatory atypia, manifestations of microbiologic disease, benign atypias, squamous atypias, dysplasia (by degree and morphologic origin), cellular features of human papilloma virus, carcinoma in situ, microinvasive carcinoma, squamous cell carcinoma, adenocarcinomas, cellular effects of radiation and chemotherapy, and post-irradiation dysplasia. (0-0-15) 5

CYT 5012 Non-gynecologic Cytology II: Upon completion of this course, the student should be able to describe anatomy, physiology, and histopathology of the breast, liver, pancreas, and ovaries; identify the fine needle aspiration cytology of the lung and mediastinum, lymph nodes, thyroid gland, salivary gland, breast, liver, pancreas, kidney, ovaries, prostate, bone, soft tissue, and infectious and inflammatory diseases; and demonstrate cytopreparatory techniques. In addition the student will become familiar with other non-gynecologic cytology specimens. (8-8-0) 12

CYT 5301 Cytology Seminar I: Upon completion of this course, the student should be able to discuss the essentials of laboratory organization and management, the fundamentals of laboratory accreditations, computerization in the cytology laboratory, and basic principles of immunocytochemistry and its cytologic application. Current cytology journals will be utilized in literature review. (3-0-0) 3

CYT 5311 Non-gynecologic Cytology Practicum I: Upon completion of this course, the student should be able to demonstrate non-gynecologic cytology collection and preparation procedures and begin to apply non-gynecologic cytology knowledge to routine microscopic evaluations. In addition, the student will begin to develop differential diagnoses in non-gynecologic cytology. (0-0-9) 3

CYT 5402 Gynecologic Cytology Practicum II: This course is an extension of Gynecologic Cytology Practicum I and is designed to provide experience in screening and diagnosing cervicovaginal smears. The student will implement existing knowledge of diagnostic cytology in order to develop solid working criteria in routine cytology screening. (0-0-12) 4

CYT 5302 Cytology Seminar II: Upon completion of this course, the student should be able to develop and present a research proposal utilizing scientific methods, literature review, and collection and interpretation of data. (3-0-0) 3

CYT 5312 Non-gynecologic Cytology Practicum II: This course is an extension of Non-gynecologic Cytology Practicum I and is designed to provide additional experience in screening and diagnosing non-gynecologic cytology preparations including fine needle aspiration cytology. The student will continue to develop skills in non-gynecologic cytopreparation including preparation of fine needle aspiration cytology. (0-0-9) 3

CYT 5320 Clinical Cytology Practicum: Upon completion of this course, the student should be able to demonstrate various gynecologic and non-gynecologic cytopreparatory and cytodiagnostic skills in a variety of clinical settings.(0-0-9) 3

CYT 5503 Gynecologic Cytology Practicum III: This course is an extension of Gynecologic Cytology Practicum II and is designed to provide experience in screening and diagnosing cervicovaginal smears. The student will continue to implement existing knowledge of diagnostic cytology in order to develop skills required of entry level cytotechnologists. (0-0-15) 5

DAN – Dance

Also see HPE

DAN 1154 Tap Dance I: Upon completion of this course, students should be able to demonstrate the correct rhythms used in basic tap steps at the barre, in the center, and traveling step (including turns), and demonstrate an understanding of basic tap terminology. No previous experience is required. (0-3) 1

***DAN 1155 Tap Dance II:** Upon completion of this course, students should be able to demonstrate an understanding of correct rhythms and body placement in executing all elementary-level tap steps.
*Prerequisite: Audition or DAN 1154 (0-3) 1

***DAN 1156 Tap Dance III:** Upon completion of this course, students should be able to demonstrate advanced elementary-level routines, in addition to more complex rhythm patterns.
*Prerequisite: Audition or DAN 1155 (0-3) 1

DAN 1157 Jazz Dance I: Upon completion of this course, students should be able to demonstrate an understanding of isolations and coordination exercises as they relate to basic jazz techniques. Special attention is given to various rhythms. No previous experience is required. (0-3) 1

***DAN 1158 Jazz Dance II:** Upon completion of this course, students should be able to demonstrate a knowledge of more complex jazz movements and theatrical jazz styles.
*Prerequisite: DAN 1157 (0-3) 1

***DAN 1159 Jazz Dance III:** Upon completion of this course, students should be able to demonstrate a knowledge of syncopated rhythms and stylized improvisation as used in jazz dance.
*Prerequisite: DAN 1158 (0-3) 1

DAN 1184 Modern Dance I: Upon completion of this course, students should have acquired an understanding of the elements of dance with emphasis on techniques requiring a basic degree of skill in performing simple exercises on the floor, at the barre, and in center floor. No previous experience is required. (0-3) 1

***DAN 1185 Modern Dance II:** Upon completion of this course, students should have acquired mastery of modern dance technique requiring an elementary degree of skill and be able to perform simple movement combinations in center floor.
*Prerequisite: Audition or DAN 1184 (0-3) 1

***DAN 1186 Modern Dance III:** Upon completion of this course, students should have acquired technical mastery of modern dance skills at the elementary level and will have begun exploration into different qualities of movement and different spatial relationships utilized in dance.
*Prerequisite: Audition or DAN 1185 (0-3) 1

DAN 1194 Ballet I: Upon completion of this course, students should have acquired an understanding of body placement, the dancer's way of counting music (Dalcroze), and classroom discipline. They should recognize the names of steps and be able to perform basic movements at the barre. No previous experience is required. (0-3) 1

***DAN 1195 Ballet II:** Upon completion of this course, students should have knowledge of basic barre exercises, including simple turns, with an emphasis on mastery of skills. Center work will include porte des bras and elementary allegro steps.
*Prerequisite: Audition or DAN 1194 (0-3) 1

***DAN 1196 Ballet III:** Upon completion of this course, students should have acquired a moderate level of proficiency in ballet technique at the elementary level. Emphasis will be placed on body positions and allegro work.
*Prerequisite: Audition or DAN 1195 (0-3) 1

***DAN 1197 Ballet Pointe Work I:** Upon completion of this course, students should have acquired a knowledge of beginning pointe work, foot and leg strengthening exercises, and correct fitting and care of pointe shoes.
Note: This class may be repeated for six successful completions to meet degree requirements.
*Prerequisite: DAN 2194 and permission of instructor Corequisite: This course is to be taken with intermediate and advanced technique classes; see the Department Head for a current list of these classes. (0-3) 1

DAN 1280 Dance for Musical Theatre: Upon completion of this course, students should be able to demonstrate through classroom performance alignment fundamentals and differences in styles basic to jazz, tap, and folk dance. No previous experience is required. (0-4) 2

DAN 1290 Dance Sources: Upon completion of this course, students should be able to demonstrate in writing an understanding of the geographical, historical, and social background of specific countries, and also demonstrate through performance the types and styles of dances characteristic of these countries. (1-2) 2

DAN 1384 Dance History I: This is a historical survey of dance until 1500. Upon completion of this course, students should be able to demonstrate in writing and discussion an understanding of how these dance forms were established historically, the role of the "dancer" in the primitive cultures, and how these forms have influenced dance in the twentieth century. (3-0) 3

DAN 1385 Dance History II: This is a historical survey of dance as a theatre art form from 1500 until 1970. Upon completion of this course, students should be able to demonstrate in writing and discussion an understanding of dance as a theatre art and of how this art was shaped by individuals who were products of our Western cultural heritage. (3-0) 3

DAN 1386 Dance History III: Upon completion of this course, students should be able to demonstrate in writing and discussion an understanding of an aesthetic system which enables them to identify basic creative principles in all dance forms and how our cultural perspective influences choreographic choices. (3-0) 3

***DAN 2184 Intermediate Modern Dance I:** Upon completion of this course, students should have made significant progress in modern dance technique and have acquired an understanding of kinesthesis (body energy).
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 1186 (0-3) 1

***DAN 2185 Intermediate Modern Dance II:** Upon completion of this course, students should have acquired further mastery of modern dance skills and an understanding of musical structure and how it relates to phrasing in dance.
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 2184 (0-3) 1

***DAN 2186 Intermediate Modern Dance III:** Upon completion of this course, students should have acquired technical mastery of modern dance skills at an intermediate level; have a firm working knowledge of the elements of dance; and have been introduced to different dance selections representative of the modern dance repertoire.
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 2185 (0-3) 1

***DAN 2187 Advanced Modern Dance I:** Upon completion of this course, students should have acquired technical mastery of modern dance skills at a beginning-advanced level of modern dance and have a knowledge of dance selections representative of modern dance repertoire.
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 2186 (0-3) 1

***DAN 2188 Advanced Modern Dance II:** Upon completion of this course, students should have acquired further mastery of modern dance technique and the application of variables affecting performance.
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 2187 (0-3) 1

***DAN 2189 Advanced Modern Dance III:** Upon completion of this course, students should have acquired mastery of modern dance skills at the advanced level as well as the ability to extend sequences.
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 2188 (0-3) 1

***DAN 2194 Intermediate Ballet I:** Upon completion of this course, students should have made significant progress in technique, and should have achieved a performing proficiency of set patterns.
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 1196 (0-3) 1

***DAN 2195 Intermediate Ballet II:** Upon completion of this course, students should have acquired further mastery of ballet technique and the application of variables affecting performance.
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 2194 (0-3) 1

***DAN 2196 Intermediate Ballet III:** Upon completion of this course, students should have acquired mastery of ballet technique at an intermediate level, as well as the ability to execute and perform complicated movement variations in extended sequences (more than one phrase).
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 2195 (0-3) 1

***DAN 2197 Advanced Ballet I:** Upon completion of this course, students should have made significant progress in advanced technique, and have acquired a sense of quality in regard to balletic movement.
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 2196 (0-3) 1
Corequisite: Ballet Pointe Work (0-3) 1

***DAN 2198 Advanced Ballet II:** Upon completion of this course, students should have acquired further mastery of advanced technique and be able to perform complicated pas.
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 2197 (0-3) 1
Corequisite: Ballet Pointe Work (0-3) 1

***DAN 2199 Advanced Ballet III:** Upon completion of this course, students should have acquired a strong advanced technique and the ability to execute and perform standard ballet repertory.
NOTE: This course may be successfully completed two times to meet degree requirements.
*Prerequisite: Audition or DAN 2198 (0-3) 1
Corequisite: Ballet Pointe Work (0-3) 1

***DAN 2284 Choreography I—Improvisation:** Upon completion of this course, students should be able to complete exercises utilizing spontaneous movement which creatively apply elementary principles of composition.
*Corequisite: Students must be enrolled in a Modern Dance technique class; see the Department Head for a list of these classes. (0-4) 2

***DAN 2285 Choreography II—Fundamentals of Composition:** Upon completion of this course, students should be able to demonstrate the elements of time and space as they relate to the fundamentals of dance composition.
*Prerequisite: DAN 2284 or permission from instructor
Corequisite: Students must be enrolled in a Modern Dance technique class; see the Department Head for a list of these classes. (0-4) 2

***DAN 2286 Choreography III—Dance Forms:** Upon completion of this course, students should be able to demonstrate the use of form within a dance and various techniques of manipulating a form.
*Prerequisite: DAN 2285 or permission from instructor
Corequisite: Must be enrolled in a Modern Dance technique class; see the Department Head for a list of these classes (0-4) 2

***DAN 2384 Dance Seminar:** Upon completion of this course, students should be able to demonstrate, through video performance, a basic knowledge of all aspects of the creation of a new ballet. The new work will be costumed and rehearsed for performance the following quarter.
*Corequisite: This course is to be taken in conjunction with one or more technique classes; see the Department Head for a list of these classes. (2-2) 3

***DAN 2388 Dance Production I:** Upon completion of this course, students should be able to demonstrate, through performance, a basic knowledge of both the artistic and technical aspects of dance production to include auditions, rehearsals, and performances before an audience. In addition to performing, students will have actively participated in lighting design and operation, costume design and construction, and publicity or operation of box office activities.
Note: This course may be repeated for six successful completions to meet degree requirements.
*Prerequisite: Audition and permission of instructor;
Corequisite: To be taken in conjunction with technique classes; see the Department head for a list of these classes. (0-12) 3

DEA – Dental Assisting

***DEA 5104 Dental Assistant Issues:** This course is designed to discuss and evaluate clinical experiences gained during Dental Office Practice IIA. Emphasis is placed on personal responsibilities as a practitioner, employee-employer relations, and problem-solving techniques. Upon completion of this course, students should have developed personal responsibilities and have demonstrated problem-solving techniques.
*Prerequisite: Fourth quarter standing in the Dental Assisting program (1-0-0) 1

***DEA 5202 Oral Pathology:** Upon completion of this course, students should be able to describe the basic pathological processes and physical manifestations of selected diseases, their association with the oral cavity, and common pathological conditions of the teeth and oral cavity. Emphasis is placed on the differences between normal and abnormal tissues.
*Prerequisite: DEA 5400 (2-0-0) 2

***DEA 5203 Office Emergencies and Pharmacology:** Upon completion of this course, students should be able to state dosage, methods of administration, and storage of common drugs and medicaments used in the dental office and perform first aid and emergency care for the patient in the dental office. Emphasis is placed on the means and methods of preventing dental office emergencies, as well as on the administration of lifesaving treatments. Students will become certified in cardiopulmonary resuscitation.
*Prerequisite: DEA 5400 (2-0-0) 2

***DEA 5234 Dental Office Management:** Students will be exposed to the principles and procedures related to managing a dental office. Emphasis is placed on office management, communication and telephone techniques, clinical records, appointment control, records management and filing systems, bookkeeping, dental plans and insurance, collections, inventory control, resume, and job interview preparation.
*Prerequisite: Third quarter standing in the Dental Assisting program (2-2-0) 3

***DEA 5303 Oral Health Education:** Upon completion of this course, students should be able to implement a patient oral health program which will include oral hygiene instruction, methods of motivation, concepts of teaching, utilization

of educational media, fluoridation as a preventive measure, and nutritional counseling concepts. Some Emphasis is placed on community health programs.
*Prerequisite: Second quarter standing in the Dental Assisting program (2-0-0) 3

***DEA 5400 Anatomy for Dental Auxiliaries:** Upon completion of this course, students should be able to recall facts and specifics regarding the general anatomy of the body and basic concepts of the normal functions of body systems; identify oral structures with special emphasis on the identification of the primary and permanent dentition; identify the bones, muscles, blood, lymph, and nerve supply of the head and neck region; and identify landmarks of the skull.
*Prerequisite: Acceptance into the Dental Assisting program (4-0-0) 4

***DEA 5425 Clinical Procedures II:** This course is a continuation of Clinical Procedures I and is designed to further prepare the student in chairside dental assisting procedures with major emphasis on the role of the dental assistant in various dental specialties including endodontics, periodontics, orthodontics, prosthodontics, pediatric dentistry, and oral surgery. Upon completion of this course, students should be able to identify and effectively handle dental equipment, instruments, and procedures involving the various specialties.
*Prerequisite: Third quarter standing in the Dental Assisting program (3-2-0) 4

DEA 5502 Introduction to Dental Assisting: Upon completion of this course, students should know the purpose, history and progress of dentistry; understand all the laws and ethics governing the dental profession; identify members of the dental health team, their education, training, function, and respective professional associations; demonstrate principles and procedures related to dental operatory equipment, instruments, sterilization, oral evacuation, instrument transfer and chairside dental assisting techniques with emphasis on four-handed dentistry.
*Prerequisite: Acceptance into the Dental Assisting program (2-6-0) 5

***DEA 5543 Dental Office Practice I:** This course includes practice as a chairside and coordinating assistant in CPCC's Central Campus Dental Clinic. Upon completion of this course, students should be able to perform at chairside with dentist and patient in general dentistry procedures; demonstrate the ability to apply classroom theory in the dental clinic in the areas of instrument transfer, oral evacuation, operatory preparation, radiology, sterilization, and laboratory procedures; and demonstrate the ability to manage the clinic while functioning as the coordinating assistant.
*Prerequisite: Third quarter standing in the Dental Assisting program (0-0-15) 5

***DEA 5544 Dental Office Practice IIA:** Students will rotate through selected community specialty offices, the Central Piedmont Dental Clinic and the Carolinas Medical Center Dental Clinic, during the fourth quarter of the program. The program faculty will plan students' experiences so that they will be exposed to all facets of the dental office. Upon completion of this course, students should be able to apply all classroom theory and perform skills acquired in the dental office at competency level.
*Prerequisite: Fourth quarter standing in the Dental Assisting program (0-0-15) 5

***DEA 5545 Dental Office Practice II B:** DEA II B is an integral part of DEA 5544 and carries the same prerequisite, objectives, activities, and course grading. (0-0-15) 5

***DEA 5724 Clinical Procedures I:** During this course, students will utilize lecture, lab, and clinical experiences in order to become competent in chairside assisting in general dentistry. Upon completion of this course, students should be able to identify and effectively handle various types of dental equipment and instruments utilized in general dentistry; demonstrate proficiency in preparation of dental materials, assembling an anesthesia syringe, rubber dam placement and removal, matrix and wedge placement and removal; and identify basic knowledge in general dentistry procedures.
*Prerequisite: DEA 5502, DEA 5601, CPR certification (2-6-6) 7

***DEA 5601 Dental Materials:** Upon completion of this course, students should be able to demonstrate a knowledge of the theory of intra- and extra-oral materials on written and practical exams. Students must be able to demonstrate a sufficient level of skill in the laboratory and clinical application of routinely-used dental materials. Through the integration of lecture and laboratory experience, students must be able to select and manipulate materials for any given procedure properly.
*Prerequisite: Second quarter standing in the Dental Assisting program (3-6-0) 6

***DEA 5602 Dental Radiology:** Upon completion of this course, students should know the rationale and utilize methods for protecting the patient and operator from ionizing radiation; know the principles involved in the production of x-rays; correctly identify parts of the dental x-ray unit and discuss the function of these parts; be able to prepare a diagnostically acceptable series of dental x-rays using a variety of intra-oral techniques; identify correctly and be familiar with extraoral techniques; be able to identify various processing equipment; process films in both the wet tanks and automatic processor; identify correctly anatomical landmarks; select appropriate film mounts and correctly mount a full series of radiographs; and recognize errors in the placement, exposure and processing, and be able to correct them.
*Prerequisite: Acceptance into the Dental Assisting program (3-6-0) 6

DEN – Dental Hygiene

***DEN 3202 Head and Neck Anatomy:** Upon completion of this course, students will be able to name and locate the major bones and landmarks of the skull. In addition, students will be able to name and locate the major muscles of mastication and facial expression, and describe the action of these muscles; describe the circulation of the blood in the head and oral region; locate the oral structures in the various divisions of the trigeminal nerve supply; list the oral structures each division affects, and describe the correct areas to administer local anesthetic to affect a specific oral structure.
*Prerequisite: DEN 3401 (2-0-0) 2

***DEN 3203 Office Emergencies:** Students will learn the means and methods of preventing office emergencies and the administration of life-saving treatments.
*Prerequisite: First Aid and CPR certification (2-0-0) 2

DEN 3223 Dental Health Education: Upon completion of this course, students will be able to implement individual plaque control programs, and demonstrating educational methods and concepts. Further, they will develop visual materials and stimulate individual behavior change via effective communication skills and motivational techniques. Students will also counsel individuals on oral physiotherapy, fluorides, accident prevention, smoking cessation, and use of sealants. (1-2-0) 2

DEN 3300 Introduction to Dental Anatomy: This course covers dental anatomy as it pertains to the permanent dentition. Students will become familiar with basic tooth morphology, arrangement of teeth in the mouth, tooth names, structures, and specific distinguishing characteristics of each tooth. Effective methods of studying dental anatomy and its many facets are emphasized. The course is designed to more accurately predict and ensure success in the dental hygiene program by providing a basic course for applicants who would like to increase their likelihood of success in dental hygiene, applicants to the dental hygiene program who have low scores on tests or a low GPA, and for students doing career exploration.
*Prerequisite or corequisite: EDU 9300 (3-0-0) 3

***DEN 3302 Oral Embryology and Histology:** Students will be able to describe the embryological development of the head and neck with specific emphasis placed upon oral structures such as teeth, glands, tongue, etc. Students will recognize oral defects, including dental defects due to irregular development and will evaluate their clinical significance. They will gain microscopic and histologic knowledge of dental and oral structures and will be encouraged to relate the knowledge gained from this subject to the clinical patient.
*Prerequisite: Den 3401, BIO 1504 (3-0-0) 3

***DEN 3401 Dental Anatomy:** Upon completion of this course, students will be able to recall specific anatomical structures of the permanent and deciduous dentition, as well as identify extracted samples of each tooth. They will also demonstrate a familiarity with dental terminology, gross oral anatomy, and classification of occlusion.
*Prerequisite: Acceptance into the Dental Hygiene program (3-2-0) 4

***DEN 3411 Preclinical Dental Hygiene I:** Upon completion of this course, students will have developed a personal philosophy of patient-centered care. They will gain knowledge and experience in the assessment phase of dental hygiene care, including infection control, equipment care and maintenance, obtaining a medical history, taking vital signs, performing an oral inspection, charting oral conditions and recording periodontal findings.
*Prerequisite: Acceptance into the Dental Hygiene program (2-4-0) 4

***DEN 3503 Dental Radiology:** Upon completion of this course, students will know the principles involved in the production of x-rays and utilize methods for protecting the patient and operator from ionizing radiation. Students will correctly identify parts of the dental x-ray unit and discuss the function of these parts. They will be able to prepare a diagnostic series of dental radiographs using a variety of intro-oral techniques and process films using a manual technique or an automatic processor. Students will correctly identify anatomic landmarks and mount and critique various film series. Students will be able to recognize errors in technique and utilize methods to correct these errors. Students will gain practical experience initially through the use of manikins and eventually expose radiographs on clinic patients.
*Prerequisite: DEN 3202 (3-4-0) 5

***DEN 3512 Preclinical Dental Hygiene II:** Through practice on manikins, each other, and selected patients, students will demonstrate the ability to plan, execute, and record a dental prophylaxis maintaining aseptic conditions, without traumatizing hard and soft tissues. A familiarity with the instruments and their use is required.
*Prerequisite: DEN 3411, DEN 3401 (2-6-0) 5

***DEN 3513 Dental Hygiene I:** Students will accomplish a complete dental prophylaxis on a number of selected patients. Treatment plans for special patients will be considered. Increasing skill in charting and periodontal evaluation will be developed. Major consideration will be given to the removal of supragingival deposits and the developing of skill in detection and removal of subgingival deposits.
*Prerequisite: DEN 3512 (2-0-9) 5

***DEN 4206 Chairside Assisting:** Students will experience chairside assisting skills expected of a trained auxiliary. Students will be competent in four-handed dentistry, placement of temporary restorations, application of periodontal packing material, taking of alginate impressions and pouring up study models. Students will also place pit and fissure sealants.
*Prerequisite: DEN 4505 (1-2-0) 3

***DEN 4207 Community Dental Health II:** Students will study resources available in the community to assist individuals and groups in meeting dental needs. They will identify a target group and spend ten weeks completing a needs assessment, developing a program plan, implementing the plan, and evaluating the results. The student will present the results along with statistics and a visual display as a final report to the class. Students will become familiar with the special techniques for meeting the needs of geriatric patients.
*Prerequisite: DEN 4406 (1-0-3) 2

***DEN 4226 Pharmacology:** Students will demonstrate a knowledge of pharmacological nomenclature, sources of drugs, fundamental types of pharmacologic action, patient reaction to drugs, and treatment of adverse reactions. Students will recall types and classes of drugs. They will write a general outline for a prescription and indicate a knowledge of the laws dealing with drugs.
*Prerequisite: CHM 3502 or equivalent (2-0-0) 2

***DEN 4305 Periodontology:** Students will discuss principles of periodontics. They will describe, compare, and contrast techniques involved in periodontal treatment and maintenance therapy, and will be able to discuss each classification of periodontal disease according to definition, clinical characteristics, radiographic changes, and case management.
*Prerequisite: DEN 3302 (3-0-0) 3

***DEN 4306 Pathology:** Students will gain introductory knowledge of general and oral pathology. They will be able to recognize common abnormalities, and describe etiology and appearance of suspicious lesions and conditions. Students will be able to recognize and identify frequently encountered diseases and pathologic conditions.
*Prerequisite: DEN 3302 (3-0-0) 3

DEN 4308 Dental Hygiene Practice: As a result of this course, students will become aware of current issues and trends in dental hygiene practice. They will explore roles,

values, ethics and responsibilities as health care providers. They will also visit dental offices and observe various employment settings and share experiences and observations with classmates. (3-0-3) 4

***DEN 4406 Community Dental Health I:** Upon completion of this course, students will be able to demonstrate knowledge, skills, and behaviors which promote dental health and prevent dental disease through organized community programs. Students will develop an understanding of the health care system and the role of the dental health professional in this system. Following lecture and laboratory experiences, students will be able to demonstrate knowledge and skills in the assessment, planning, promotion, implementation, and evaluation of community programs.
*Prerequisite: DEN 3223 (3-2-0) 4

***DEN 4505 Dental Materials:** Upon completion of this course, students will be able to demonstrate knowledge of the theory of intra- and extra-oral materials in written and practical exam. Students will be able to demonstrate a competency level of skill in the laboratory and clinical application of routinely used dental materials. Through the integration of lecture and laboratory experiences, students will be able to properly select and manipulate materials for any given procedure.
*Prerequisite: CHM 3502 (3-4-0) 5

***DEN 4616 Dental Hygiene III:** Sixth quarter Dental Hygiene students will gain proficiency in performing a complete oral prophylaxis on all patient classifications. Major emphasis is placed on increasing students' subgingival deposit removal skills. In addition, continued emphasis will be given to meeting the individual needs of the patient. Along with clinical application of basic chairside assisting skills, students will select and treat a periodontally-involved patient as part of a case study.
*Prerequisite: DEN 4715 (1-0-15) 6

***DEN 4617 Dental Hygiene IV:** Students will develop speed and efficiency in accomplishing a dental prophylaxis to prepare for entrance into the workplace. Students will provide care for an increased number of patients who require challenging treatment experiences without sacrificing the quality of care. Students will also present a prepared periodontal case history. Demonstration of exit-level competencies for all practice tasks is required.
*Prerequisite: DEN 4616 (1-0-15) 6

***DEN 4715 Dental Hygiene II:** Dental Hygiene students will gain proficiency in performing a complete oral prophylaxis on all classifications of patients, which will include plaque control instruction and detection, and removal of all deposits within the capabilities of the fifth quarter Dental Hygiene student. Major consideration will be given to the refining of calculus detection skills.
*Prerequisite: DEN 3513, DEN 3223 (2-0-15) 7

DFT – Drafting, Mechanical

***DFT 3221 Solids Modeling and Rendering - AutoCAD:** Upon completion of this course, students should be able to construct 2-dimensional regions and 3-dimensional solids, perform Boolean operations on regions and solids in order to obtain composite structures, determine the physical attributes of regions and solids, and render 3-dimensional objects by use of AutoCAD software.
*Prerequisite: DFT 3320 (1-3) 2

DFT 3300 Advertising Drafting: Upon completion of this course, students should be able to use drafting equipment to lay out simple geometric constructions, letter words and numbers with standard lettering, lay out a typical title page, read elementary orthographic drawings, produce simple ink drawings including pictorial drawings, and relate instrument drafting to commercial art work. (2-3) 3

***DFT 3314 Mechanical CAD, AutoCAD 2-D:** Upon completion of this course, students should be able to identify the components of a PC-based CAD system; use the AutoCAD menu system to draw and edit lines, circles, arcs, curves, and text; draw simple 2-dimensional objects; draw simple and complex objects using 3-view orthographic projection; draw cross-section views; dimension detail drawings; and create and use a library of standard parts.
*Prerequisite: DFT 3404, EDP 3310 or Departmental permission (2-3) 3

***DFT 3317 CAD Detailing:** Upon completion of this course, students should be able to draw and dimension machine elements such as threads, fasteners, and springs, gears and gearing, cams and cam followers, and other common machine elements and obtain and use the essential generic nomenclature from tables and charts for standardized stock items such as gears and threaded elements.
*Prerequisite: DFT 3314 (1-6) 3

***DFT 3318 CAD Assembly:** Upon completion of this course, students should be able to use a CAD system to draw parts separately and in assemblies; be able to draw and understand the function of general assemblies, detail sheets, and subassemblies; recognize working drawing assemblies, sectioned assemblies, installation assemblies, and check assemblies; and be able to produce parts lists with proper cross referencing for detail and assembly drawings.
*Prerequisite: DFT 3317 or Departmental permission (1-6) 3

***DFT 3319 CAD Project:** Upon completion of this course, students should have completed a mechanical or manufacturing drafting project consisting of all the detail and part drawings, subassembly and assembly drawings, Bill of Materials and specifications that are necessary to convey the graphical and written information for the completion of a mechanical design or manufacturing processing documentation.
*Prerequisite: DFT 3318 (1-6) 3

***DFT 3320 Mechanical CAD, AutoCAD 3-D:** Upon completion of this course, students should be able to create 3-D views of an object, demonstrate understanding of the XYZ coordinate system, define and use a User Coordinate System (UCS) to create 3-D models, construct 3-D entities by extrusion, and apply 3-D Surface Modeling techniques.
*Prerequisite: DFT 3314 (1-6) 3

DFT 3404 Mechanical Drafting: Upon completion of this course, students should be able to use drafting equipment and instruments; letter words and numbers in Gothic style; lay out geometric constructions; execute orthographic drawings by use of instruments; dimension drawings and apply notes to drawings; reproduce, file, and store drawings; and execute simple "working" drawings. (2-4) 4

Diesel Vehicle Maintenance – See DSL

DRA – Drama

DRA 1301 Stagecraft: Upon completion of this course, students should have a working knowledge of theater buildings and their equipment, working drawings, and scene shop organization. They will have had practice in scenery construction and painting. Participation on technical crews of the College theater productions is required. (l-4) 3

DRA 1303 Acting: Upon completion of this course, students should have acquired practice in developing and controlling the voice, body, and emotions as instruments of expression. Each student will be encouraged to free and use imaginative resources and critical faculties through controlled practice. (l-4) 3

***DRA 1304 Advanced Acting:** This is a continuation of DRA 1303. Upon completion of this course, students should be able to demonstrate an understanding of more advanced acting theories with special attention given to verse drama, musical theater, and specialized stage movement and exercises.
*Prerequisite: DRA 1303 or consent of instructor (1-4) 3

DRA 1310 Play Production—One Acts: Upon completion of this course, students should demonstrate an understanding of the basic practices and principles governing the staging of one-act plays. The laboratory consists of the rehearsing and performing of one-act plays. (0-12) 3

DRA 1312 Play Production—Musical: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles governing the staging of musicals. The laboratory consists of rehearsing and performing a full-scale musical production. (0-12) 3

DRA 1315 Play Production—Drama: Upon completion of this course, students should demonstrate an understanding of the basic practices and principles governing the staging of a full-length drama. The laboratory consists of rehearsing and performing a full-length drama production. (0-12) 3

DRA 1316 Advanced Play Production-Drama: Upon completion of this course, students should have mastered processes of dramatic script analysis, role playing of major proportions, and extended rehearsal and performance. Special attention is given to each participant mapping out and completing a strategy for a successful final dramatic performance before an audience. (0-12) 3

DRA 1317 Play Production—Comedy: Upon completion of this course, students should demonstrate an understanding of the basic practices and principles governing the staging of a full-length comedy. The laboratory consists of the rehearsal and performance of a full-length comedy production. (0-12) 3

DRA 1318 Advanced Play Production—Comedy: Upon completion of this course, students should have mastered processes of comedic script analysis, role playing of major proportions, and extended rehearsal and performance. Special attention is given to each participant mapping out and completing a strategy for a successful final comedic performance before an audience. (0-12) 3

DRA 1320 Teleplay Production—Drama: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production, and post-production phases of a dramatic television program through a laboratory practicum consisting of the rehearsal, performance, and broadcast of a role in a 30- to 60-minute dramatic television program. (0-12) 3

DRA 1321 Teleplay Production—Situation Comedy: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production, and post-production phases of a situation comedy television program through a laboratory practicum consisting of the rehearsal, performance, and broadcast of a role in a 30- to 60-minute situation comedy television program. (0-12) 3

DRA 1322 Teleplay Production—Action/Adventure: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production, and post-production phases of an action/adventure television program through a laboratory practicum consisting of the rehearsal, performance, and broadcast of a role in a 30- to 60-minute action/adventure television program. (0-12) 3

DRA 1323 Teleplay Production—Variety: Upon completion of this course, students should be able to demonstrate an understanding of the basic practices and principles of pre-production, production, and post-production phases of a variety television program through a laboratory practicum consisting of the rehearsal, performance, and broadcast of a role in a 30- to 60-minute variety television program. (0-12) 3

DRA 1500 Introduction to Drama: Upon completion of this course, students should develop skills in analyzing the nature of the theater and drama, demonstrate mastery of the principles of play analysis, and demonstrate an understanding of the fundamentals of technical production. (5-0) 5

DRA 1501 Introduction to Broadcasting: Upon completion of this course, students should be able to analyze the elements of television and radio broadcasting by demonstrating a mastery of the history and principles of broadcast system; by demonstrating an understanding of the fundamentals of the technical production of broadcasting; and by formulating a critical response to the broadcast medium in writing and in conversation, demonstrating a knowledge of any manifestation of media as it affects both the individual and society. (5-0) 5

DRA 2204 Special Problems in Drama: This is an advanced problems course of guided studies involving laboratory and library work. (l-3) 2

DRA 2303 Acting for the Camera: Upon completion of this course, students should have acquired practice in acting for television commercials, as well as experience before print photographers, and have a working knowledge of video studio equipment. (l-4) 3

***DRA 2306 Advanced Acting for the Camera:** This is a continuation of DRA 2303. Upon completion of this course, students should be able to demonstrate an understanding of more advanced camera acting theories, read for an audition,

perform in a daytime drama, prepare a role in a feature film, and portray a clear character type in a TV or print advertisement.
*Prerequisite: DRA 2303 or consent of the instructor (l-4) 3

DRA 2312 Advanced Play Production—Musical: Upon completion of this course, students should have demonstrated a thorough knowledge of script analysis, character building, and extended performance of a musical production. Special attention is given to each participant mapping out and completing a strategy for a successful performance before an audience. (0-12) 3

DRA 2414 Film Criticism: Through discussion and film screenings, students should be able to develop a critical appreciation for the elements of film and should be able to formulate a critical response to the film medium in writing and in conversation, demonstrating an intelligent reaction to any film.
Note: This course is a Writing Intensive Elective for UNCC. (3-2) 4

DSL – Diesel Vehicle Maintenance

***DSL 5204 Diesel Vehicle Maintenance Co-Op I:** Upon completion of this course, students should be able to apply skills acquired in diesel vehicle maintenance courses to actual work situations in the diesel vehicle maintenance industry, produce a work log sheet containing the types and number of job tasks completed in industry during the cooperative work experience, and demonstrate exemplary attendance and work habits.
*Prerequisites: Successful completion of first quarter classes - DSL 5311, DSL 5312, DSL 5300, DSL 5304; completion and acceptance by Program Director of Work Experience Registration Approval Form (0-20) 2

***DSL 5205 Diesel Vehicle Maintenance Co-Op II:** This course is a continuation of DSL 5204, Diesel Vehicle Maintenance Co-Op I.
*Prerequisite: DSL 5204; completion and acceptance by Program Director of Work Experience Registration Approval Form (0-20) 2

DSL 5206 Cab Heating and Air Conditioning: Upon completion of this course, students should be able to describe the operation of a cab heating system including the function of components such as heater cores, heater controls, thermostats, water valves, and air flow ducting; describe the operation of a cab air conditioning system including the function of components such as compressors, pressure sensors and trianary switches; test for leaks, both coolant and A/C fluid, make repairs, evacuate and charge an air conditioning system. (1-3) 2

***DSL 5207 Diesel Vehicle Maintenance Co-Op III:** This course is a continuation of DSL 5204 and DSL 5205, Diesel Vehicle Maintenance Co-Op II.
*Prerequisites: DSL 5204, DSL 5205; completion and acceptance by Program Director of Work Experience Registration Approval Form (0-20) 2

DSL 5300 Diesel Fundamentals: Upon completion of this course, students should be able to identify a selection of fasteners by size, grade, and thread type, and make repairs to threaded holes; describe safety standards that pertain to vehicle maintenance shops; demonstrate the use of basic measuring instruments to determine component serviceability; describe direct and indirect diesel injection; define terms such as low idle, high idle, peak torque, governor cut-off, line retraction, port closure, and effective stroke as related to diesel injection and governing; identify the major sections of a roots-type blower and turbocharger; describe the basic piston and crankpin movements in a diesel engine 4-stroke cycle; and determine items such as compression ratio, cylinder displacement, bore and stroke size, and piston speed. (2-2) 3

DSL 5304 Hydraulics and Pneumatics: Upon completion of this course, students should be able to identify basic hydraulic components from a diagram drawn with standard hydraulic symbols; demonstrate a knowledge of vane, gear and piston pumps and motors; demonstrate a knowledge of pressure flow and directional control valves; compute the volume and speed of cylinders; test the performance of a gear fuel supply pump; define a selection of hydraulic terms; discuss tubing and fittings, hose and couplings; describe air compressors and air governors; and identify basic components of a compressed air system. (2-2) 3

DSL 5308 Air Brakes: Upon completion of this course, students should be able to describe the operation of air supply and service system, mechanical foundation brakes, spring brake/parking brake, and the ABS system (antilocking braking system); perform an air brake safety test on a vehicle; disassemble and inspect a wheel brake unit, reassemble, and adjust to specifications; clean, inspect, lubricate wheel bearing, replace seals and wear rings, and adjust wheel bearings to specifications. (2-2) 3

DSL 5309 Electronic Diesel Injection Systems: Upon completion of this course, students should be able to describe the operation of ECM-controlled diesel injection systems; describe the function of throttle position sensors, pressure sensors, temperature sensors, camshaft and crankshaft position sensors, speed sensors, electronic control modules, electronic controlled valves and stepper motors as related to electronic diesel injection; obtain fault codes and use troubleshooting fault trees to isolate defects in electronic controlled diesel injection system; use digital VOM meter to test system components, operate engine and verify correction of faults.(2-2) 3

DSL 5310 Diesel Tune-Up and Troubleshooting: Upon completion of this course, students should be able to describe the effects each engine system has on other engine systems, make test gauge connections to check 4-stroke cycle and 2-stroke cycle engine system, perform complete tune-up adjustments on operational 4-stroke cycle diesel engines, perform complete tune-up adjustments on operational 2-stroke cycle diesel engines, run a diesel engine under load and test system pressures, and use troubleshooting techniques to locate system problems on operational 2- and/or 4-stroke cycle diesels. (2-2) 3

DSL 5311 Fleet Maintenance Practices: Upon completion of this course, students should be able to complete a PM check-off form; determine items in need of repair or replacement; identify defects in the steering, brakes, lights, etc., which would make the vehicle unsafe to operate. (2-2) 3

DSL 5312 Basic Electricity: Upon completion of this course, students should be able to check continuity in electrical circuits; check applied voltages and voltage drops, check current flow in electrical circuits, test circuit resistances; find shorts and grounds in electrical circuits, test circuit breakers,

fuses and fusible links; diagnose and repair battery problems; diagnose and repair starter and starter circuit problems; and diagnose and repair charging system problems. (2-2) 3

DSL 5313 Electrical-Electronic Testing: Upon completion of this course, students should be able to use a digital VOM meter to test circuits with electronic components, describe the function of components used in an ECM-controlled circuit to feedback information to the electronic control module, describe components actuated by the ECM, inspect and repair electronic control module wiring circuits, diagnose and repair lighting system components and circuits, and diagnose and repair gauges and warning devices. (2-2) 3

DSL 5321 Transport Refrigeration: Upon completion of this course, students should be able to describe the operation of a basic mechanical refrigeration system as used in transport refrigeration; demonstrate a knowledge of basic principles, the basic refrigeration cycle, system components, and defrost system; perform preventive maintenance on the power unit and refrigeration unit; connect gauge manifold, test, and correct refrigerant and oil levels; use the temperature of system components as an aid to troubleshooting system problems; and test and isolate electrical problems using a VOM meter. (2-2) 3

DSL 5408 Heavy Duty Chassis and Suspension Systems: Upon completion of this course, students should be able to describe the operation of manual steering and power steering; inspect and adjust steering linkage, inspect and determine excess wear of suspension systems; remove and replace suspension components such as springs, hangers and bushings, torsion bars, torque arms, suspension air bags and level valves; check wheel alignment, determine camber, caster, toe and king-pin inclination, and determine needed repairs; check and adjust axle alignment and tracking; diagnose unusual tire wear; make necessary repairs to flat tires; inspect and service fifth wheel and slide; inspect and determine necessary repair for frame defects. (2-4) 4

DSL 5409 Heavy-Duty Drive Train: Upon completion of this course, students should be able to describe the operation of single- and double-disc heavy-duty clutches; diagnose and repair clutch-related problems; describe the operation of manual heavy-duty transmissions; diagnose and repair single- and dual-countershaft transmission problems; diagnose and repair air operated shift controls and cylinders; diagnose and repair drive shaft and universal joint problems, including measuring and adjustment of drive train angles; describe the operation of drive axles including two-speed axles and power dividers; diagnose and repair drive axle problems including disassembly, inspection of differential carriers, and reassembly to specification. (2-4) 4

DSL 5410 Diesel Engines I: Upon completion of this course, students should be able to disassemble and assemble to manufacturer's specifications a typical heavy-duty 4-stroke and/or 2-stroke diesel engine; relate the importance of good maintenance to performance of an engine's lubrication, cooling, fuel, intake and exhaust systems; make adjustments to compression-type engine brakes; demonstrate ability to use service manuals and parts books; crank and run engine. (2-4) 4

DSL 5411 Hydromechanical Diesel Injection Systems: Upon completion of this course, students should be able to describe the operation of scroll and sleeve metering injection pumps, distributor-type injection pumps, and Cummins P T fuel systems; assemble and run an inline and/or distributor-type and/or Cummins P T pump on test stand; check pump delivery; set governor cut-off; test pump phasing; check starting fuel and peak torque delivery; check low and high idle setting; inspect, test, adjust mechanical governors; install static and/or flow time injection pump; describe the operation of mechanical unit injectors; clean, inspect, assemble and flow test unit injectors; install and set to specifications. (2-4) 4

DSL 5412 Diesel Engines II: Upon completion of this course, students should be able to overhaul a typical diesel engine; inspect and determine renewability of cylinder head and valve train components; rebuild cylinder head; inspect and determine reusability of cylinder block and components such as crankshaft, camshaft, timing gears, cylinders liners, pistons, connecting rods, flywheel and ring gear; inspect and determine reusability of support components such as the injection pump and injectors, water pump, oil cooler, air compressor, generator (alternator), turbocharger, aftercooler and starter motor; repair or replace worn components; assemble engine to manufacturer's specifications; crank and run engine. (2-4) 4

ECA – Early Childhood

ECA 3300 Child Growth and Development I: Upon completion of this course, the student should be able to discuss theories and historical perspectives of child growth and development, identify observation and research techniques/methods, define and interpret terms associated with child growth and development, identify and recognize the various areas of development including physical/motor, identify and discuss environmental and hereditary factors influencing development, identify and discuss the factors influencing development in the prenatal and neonatal periods, describe the birth process and the various birthing methods, identify characteristics of the neonatal period.(3-0-0-0) 3

ECA 3301 Child Growth and Development II: Upon completion of this course, the student should be able to identify and discuss theories and terms associated with development in infant, toddler, and preschool children; describe the various factors which influence development; describe physical/motor development; describe cognitive/language development; describe social/emotional development; identify typical and atypical development; identify and discuss the essential features of a quality group care environment; identify developmentally appropriate practices. (3-0-0-0) 3

ECA 3302 Child Growth and Development III: Upon completion of this course, the student should be able to identify and discuss theories and terms associated with development in middle childhood and adolescence; describe factors which influence growth and development; describe physical/motor development; describe cognitive/language development; describe social/emotional development; identify and discuss the essential features of a quality group care environment; discuss the influences which adults, peers, and the school exert on development; identify typical and atypical development; identify developmentally appropriate practices. (3-0-0-0) 3

ECA 3303 Introduction to Day Care Administration: Upon completion of this course, the student should be able to describe the steps involved in setting up child care programs according to state and federal guidelines; describe the man-

agement practices required in quality child care programs including fiscal budgets, records, ordering of supplies, equipment, scheduling, and operational policies; describe personnel practices required in quality child care programs, including job descriptions and interviewing. (3-0-0-0) 3

ECA 3304 Guidance for Young Children: Upon completion of this course, the student should be able to define and differentiate indirect and direct guidance; describe factors in teacher arrangement of classroom time and space which indirectly guide children's behavior; identify and discuss a range of appropriate direct guidance techniques which facilitate the development of self-concept; and discuss teacher guidance during routine times of the day such as mealtime, bathroom, and nap times. (3-0-0-0) 3

ECA 3305 Child Health, Safety, and Nutrition: Upon completion of this course, the student should be able to list and explain major concepts in the curriculum areas of health, safety, and nutrition; describe appropriate strategies and activities to use with children in the curriculum areas of health, safety, and nutrition; assess safety of indoor and outdoor environments; develop skills in identifying child abuse and neglect, and communicable diseases; manage acute illness and emergency care situations; prepare menus according to established nutritional guidelines and individual and cultural diversities; identify general health/sanitation practices which should be used by effective caregivers; identify components of various child food programs; design developmentally appropriate nutrition activities for children. (3-0-0-0) 3

ECA 3307 Child Care Credential I: After completing this course, students should be able to define the role of the child care professional; describe behaviors that show professional ethics; identify traits and characteristics of an effective child care provider; demonstrate knowledge of professional growth activities, such as conferences, journals, professional organizations; list the major areas of child growth and development; list three major principles of child growth and development; identify cognitive/language/social/emotional, physical/motor characteristics of children birth through 12; identify early warning signs of development delays and/or disabilities; describe reasons for acceptance of individual cultures, home situations, and community; list benefits of establishing positive relationships with families; and identify resources to support parenting skills. (3-0-0-0) 3

ECA 3308 Child Care Credential II: After completing this course, students should be able to identify elements in the physical environment that promote independence, security and problem prevention; list principles to follow in planning a daily schedule and developmentally-appropriate activities; identify adult-child interactions that promote social and emotional development; describe activities that promote problem solving and creative thinking; identify and describe examples of positive guidance; identify and demonstrate effective communication skills for positive guidance; identify and demonstrate effective methods of group guidance; describe basic steps for guiding children from misbehavior to more acceptable behavior; identify health and sanitation standards that promote a healthful environment for children; describe the "Basic Four Plus 1" USDA nutritional standards for meals/snacks; list foodservice objectives related to nutrition in the child care setting; and identify potential safety hazards in the indoor/outdoor environments of a child care setting. (3-0-0-0) 3

ECA 3310 The Exceptional Child: Upon completion of this course, students should be able to identify and discuss characteristics of developmental exceptionalities; identify community and state resources available for families with exceptional children; identify a variety of activities appropriate for children who are exceptional in personality and/or physical development; identify ways exceptional children use materials, supplies, and equipment differently than other children; identify techniques of working with parents to help reduce their apprehensions about their child's condition; and define the procedures for referring a child to special services. (3-0-0-0) 3

ECA 3311 Infant and Toddler Development: Upon completion of this course, students should be able to describe the normal growth and development of the infant, identify the needs of the developing infant, describe the normal growth and development of the toddler, identify the needs of the developing toddler, list and discuss the principles underlying a program for infants and toddlers, plan particular segments of a program for infants and toddlers, implement particular segments of a program for infants and toddlers. (3-0-0-0) 3

ECA 3321 Introduction to Early Childhood Education: Upon completion of this course, the student should be able to examine contemporary societal factors that influence early childhood education, chart the history of the early childhood movement, describe qualities and roles of a child care provider, identify professional ethics for child care workers, explain the importance of play in the early childhood environment, evaluate developmentally appropriate environments for children, discuss the various types of early childhood programs and curricula. (3-0-0-0) 3

***ECA 3322 Seminar/Practicum I:** Upon completion of this course, the student should be able to observe children for their unique characteristics and skills, interact appropriately with children, assist with child guidance and classroom management, assist teacher with class routines, plan with members of the staff, implement assigned activities for a small group or the entire class, exhibit professional behaviors.
*Prerequisite: Program Director or Instructor consent
(2-0-0-10) 3

ECA 3360 Understanding Adolescence: Upon completion of this course, students should be able to differentiate major developmental characteristics associated with pre-adolescence, early adolescence, and late adolescence changes; identify and describe specific characteristics of the adolescent in the areas of physical, cognitive, social, emotional, and moral development; identify and discuss the inter-relationship between the social, emotional, cognitive, and physical development of the adolescent; and identify and describe social and familial factors which prevent and encourage maximum growth and development of the adolescent. (3-0-0-0) 3

ECA 3406 Exploration Activities in Early Childhood: Upon completion of this course, the student should be able to identify and discuss the discovery approach to teaching/learning science, math, and social studies with young children; discuss and explain major concepts in math, science, and social studies appropriate for inclusion in the early childhood curriculum; plan and implement exploration activities in science, math, and social studies;describe the coordination of field trips and special events and community resources; demonstrate how children naturally learn science,

math, and social studies through an integrated approach by questioning, probing, investigating, problem resolving, and exploration. (3-2-0-0) 4

ECA 3424 Creative Activities in Early Childhood: Upon completion of this course, the student should be able to explain the concept of creative activities and their importance to children; list components of effective art, music, dramatics, and movement including centers and activities; list musical instruments suitable for children; describe developmentally appropriate art, music, movement and dramatics activities for children; construct teaching aids to be used in music, dramatics, and movement; demonstrate the use of various art media; list stages of art for children; list basic movement skills; demonstrate integrated instructional activities. (3-2-0-0) 4

ECA 3426 Communication Activities in Early Childhood: Upon completion of this course, the student should be able to examine the significant reading and writing (literacy) in today's world; discuss the major approaches used to help children learn speaking, listening, writing, and reading; describe how children learn differently at various ages and stages of development; plan, implement, and evaluate developmentally appropriate early literacy experiences.(3-2-0-0) 4

ECA 3525 Early Childhood Curriculum Planning and Methods: Upon completion of this course, the student should be able to explain factors affecting curriculum, identify components of the curriculum planning process, demonstrate relationships between assessment and instructional goals in planning for children, demonstrate ability to integrate knowledge of developmental characteristics in creating appropriate curricula for children, explain elements of long-range instructional planning, plan and adapt schedules to meet individual children's needs, identify major principles of environmental arrangements, evaluate appropriate equipment and materials for indoor and outdoor learning, identify and demonstrate principles of effective instructional techniques. (5-0-0-0) 5

ECA 4300 Working with Parents: Upon completion of this course, the student should be able to list and discuss three specific benefits for parent, teacher, and child in establishing and maintaining a positive relationship with parents; identify and demonstrate at least eight effective strategies for teachers to communicate with parents; identify and discuss at least five methods for involving parents in programs for children; demonstrate, through role play and evaluations, knowledge of the purpose of parent conferences and at least six effective techniques used in conducting conferences; demonstrate skills in preparing materials for parents, such as newsletters and bulletin boards; identify and discuss particular needs of families experiencing stress, parents of infants, parents of exceptional children, parents involved in abuse and neglect, or experiencing divorce and separation; and identify and describe at least five appropriate community agencies to which teachers can refer parents who need particular assistance. (3-0-0-0) 3

ECA 4310 Adult/Child Relations: Upon completion of this course, students should be able to identify principles underlying the development of a positive self-concept in young children; identify and demonstrate effective listening skills: active listening essential to positive one-to-one interaction and positive small group interaction with young children; and identify and demonstrate effective listening and communication skills essential to positive (job related) interaction with parents and staff in a variety of situations. (3-0-0-0) 3

***ECA 4322 Seminar/Practicum II:** Upon completion of this course, the student should be able to observe and record anecdotal observations of children, assess developmental abilities and set instructional goals related to assessments, maintain effective classroom management and utilize a variety of positive guidance techniques, plan with staff and assume assigned duties, participate in activities and daily routines, plan and implement a variety of assigned learning experiences for small groups of children, assess effectiveness and teaching techniques, exhibit professional behaviors and positive staff relations.
*Prerequisite: Program Director or Instructor consent
(2-0-0-10) 3

***ECA 4323 Seminar/Practicum III:** Upon completion of this course, the student should be able to identify factors that contribute to individual children's developmental patterns, assess development and formulate instructional goals related to the assessment; demonstrate ability to maintain effective classroom management and contribute to an optimal learning environment; plan and implement a variety of developmentally appropriate activities; demonstrate ability to assume leadership of classroom activities and routines for specific periods; demonstrate ability to communicate effectively with children, staff, and parents; identify personal teaching competencies and formulate a plan for professional growth; demonstrate skills needed for successful employment, such as resume preparation, job search, and interviewing.
*Prerequisite: Program Director or Instructor consent
(2-0-0-10) 3

ECA 5510 CDA Practical Lab I - Setting Up and Maintaining a Healthy Learning Environment: Upon completion of this course, students should be able to organize space into functional areas recognizable by the children: block building, library, and dramatic play; maintain a planned arrangement for furniture, equipment, and materials for large and small motor skills learning, and for play materials that are understandable to the children; organize the classroom so that it is possible for the children to be appropriately responsible for care of belongings and materials; arrange the setting to allow for active movement as well as quiet engagement; take preventive measures against hazards to physical safety; keep light, air, and heat at best possible levels; establish a planned sequence of active and quiet periods, and of balanced indoor and outdoor activities; provide for flexibility of the planned arrangement of space and scheduling to adjust to special circumstances and needs of a particular group or children or make use of special education opportunities; recognize unusual behavior or symptoms which may indicate a need for health care. (3-0-0-20) 5

ECA 5511 CDA Practical Lab II-Advancing Physical and Intellectual Competence: Upon completion of this course, students should be able to use the kinds of materials, activities, and experiences that encourage exploring, experimenting, questioning that help children fulfill curiosity, gain mastery, and progress toward higher levels of achievement; recognize and provide for the young child's basic impulses to explore the physical environment and master the problems that require skillful body coordination; increase knowledge of things in their world by stimulating observation and providing for manipulative-constructive activities; use a variety of tech-

niques for advancing language comprehension and usage in an atmosphere that encourages free verbal communication among children and between children and adults; assist the child to work gradually toward recognition of the symbols for designating words and numbers; promote cognitive power by stimulating children to organize their experience (as it occurs incidentally or is pre-planned for them) in terms of relationships and conceptual dimensions, classes of objects, similarities and differences, comparative size, amount, degree, orientation in time and space, growth and decay, origins, family kinship, and causality; provide varied opportunities for children's active participation, independent choices, experimentation and problem-solving within the context of structured, organized setting and program; balance unstructured materials such as paint, clay and blocks with structured materials that require specific procedures and skills, balance the use of techniques that invite exploration and independent discovery with techniques that demonstrate and instruct; stimulate focused activities: observing, attending, initiating, carrying through, raising questions, searching answers and solutions for the real problems that are encountered and reviewing the outcomes of experience; support expressive activities by providing a variety of creative art media and allowing children freedom to symbolize in their own terms without imposition of standards of realistic representation; and utilize support and develop the play impulse in its varied symbolic and dramatic forms, as an essential component of the program, giving time, space, necessary materials, and guidance in accord with its importance for deepening and clarifying thought and feeling in early childhood. (3-0-0-20) 5

ECA 5512 CDA Practical Lab III - Building Positive Self Concept and Individual Strength: Upon completion of this course, students should be able to provide an environment of acceptance in which the child can grow toward a sense of positive identity as a boy/girl, as a member of the family and ethnic group, and as a competent individual with a place in the child community; give direct, realistic affirmation to the child's advancing skills, growing initiative and responsibility, increasing capacity for adaptation, and emerging interest in cooperation, in terms of the child's actual behavior; demonstrate acceptance to the child by including the home language functionally in the group setting and helping to use it as a bridge to another language for the sake of extended communication; recognize individual differences in children's style and pace of learning and in the social-emotional aspects of their life situation, and adjust the teacher-child relationship to the individual needs by using a variety of teaching methods and by maintaining flexible progressive expectations; recognize when behavior reflects emotional conflicts around trust, possession, separation, rivalry, etc., and adapt the program of experiences, teacher-child and child-teacher relationships, to give support and to enlarge the capacity to face these problems realistically; assess special needs of individual children and call in specialized help where necessary; keep a balance for the individual child between tasks and experiences from which feelings of mastery and success can be enjoyed, as well as other tasks and experiences which are a suitable and stimulating challenge, yet not likely to lead to discouraging failure; and assess levels of accomplishment for the individual child against the background of norms of attainment for a developmental stage, taking into careful consideration individual strengths and weaknesses and considering opportunities the child has or has not had for learning and development. (3-0-0-20) 5

ECA 5513 CDA Practical Lab IV - Organizing and Sustaining the Positive Functioning of Children and Adults in a Group Learning Environment: Upon completion of this course, students should be able to plan the program of activities of the children to include opportunities for playing and working together and sharing experiences and responsibilities with adults in a spirit of enjoyment as well as for the sake of social development; create an atmosphere through example and attitude where it is natural and acceptable to express feelings, both positive and negative - love, sympathy, enthusiasm, pain, frustration, loneliness, or anger; establish a reasonable system of limits, rules and regulations to be understood, honored, and protected by both children and adults, appropriate to the stage of development; foster acceptance and appreciation of cultural variety by children and adults as an enrichment of personal experience; and develop projects that utilize cultural variation in the family population as resource for the educational program. (3-0-0-20) 5

ECO – Economics

Note: As noted in the Admissions policy, placement tests may be required for the degree, diploma or certificate sought. Before attempting a course in Economics, remedial courses must be completed based on test results, and /or the mathematics required for the major program should be completed.

ECO 2304 Economics I: Upon completion of this course, students should be able to apply economic concepts of market economies to basic and current economic issues; analyze GDP, business cycles, and monetary and fiscal policy; and evaluate the role of federal agencies in influencing the economy. Students will improve their ability to interact with one another in analyzing national economic issues. (3-0) 3

ECO 2305 Economics II: Upon completion of this course, students should be able to discuss consumer and business choice by analyzing market demand and supply and elasticity; explain the various market structures of pure competition, monopolistic competition, oligopoly, and monopoly; and discuss "real world" issues concerning industrial organizations, unions, and government antitrust and regulation policy. Students will improve their ability to interact with one another in analyzing individual and business economic issues. (3-0) 3

***ECO 2306 Economics III:** This course is designed for economics students to expand their knowledge of principles and techniques acquired in prerequisite courses and to relate that knowledge to various contemporary problems (e.g., housing, energy, the environment, education, transportation, and international trade). Upon completion of this course, students should be able to discuss the economic approach to issues mentioned above; discuss international trade, protectionism, foreign exchange, and payments; analyze the importance of economic growth and productivity; and explain the problems of the less-developed countries. A research paper is required.
*Prerequisite: ECO 2304 or ECO 2305 (3-0) 3

ECO 3300 Introduction to Economics: This course is designed for students who are interested in a broad overview of economics. Upon completion of this course, students should be able to discuss the various types of economic systems; analyze some of the goals and problems (e.g., unemployment, inflation, and production of our economy); discuss

consumer choice by analyzing the concepts of demand, supply and elasticity; describe the role of the government in the macro-economy; describe monetary and fiscal policy; explain business competition, labor markets, and unions; and discuss international trade. (3-0) 3

EDN – Interior Design

EDN 3304 Macintosh Applications In Interior Design: Upon completion of this course, students should be able to use MAC-WRITE, MAC-PAINT, MAC-DRAW, MAC-DRAFT, and QUICKEN software for application to their work in Studio I, II, III, Presentations and Professional Practice and Procedures, Contract Interiors and Thesis. (2-2) 3

EDN 4205 Orientation: Upon completion of this course, students should be familiar with the Interior Design Program offered at CPCC and the use of CPCC's facilities, such as the Library, Learning Center, Central Campus security, and counseling services and should be able to make better career choices and plan their program accordingly. (2-0) 2

***EDN 4206 Cooperative Work Experience:** Upon completion of the Cooperative Work Experience, students should be able to perform the tasks required by that work situation. Students will be asked to keep a daily record of their experience and provide the instructor involved with a self examination of how well they did; employers will also evaluate their experience with the cooperative work experience program.
*Prerequisite: EDN 4314 and permission from the Program Director and the Co-Op staff (0-20) 2

EDN 4300 Survey of Interior Design: Upon completion of this course, students should have acquired a general understanding of the nature and scope of interior design as a profession, contrasting and comparing different specializations within the field of interior design. (3-0) 3

***EDN 4304 Interior Presentation:** Upon completion of this course, students should develop skills in assembling interior elements that comprise interior presentations such as fabric, furniture, tile, masonry, etc. The student should be able to make presentations of designs in a simulated designer-client relationship, construct and present simple interior collages and room layouts in ink and color. The student should develop additional skills in applying computer output to design presentations, including space planning, elevations, and presentation sketching.
*Prerequisite: ARC 3434, ARC 3326,EDN 4311 (1-6) 3

EDN 4307 Survey of Materials: Upon completion of this course, students should be able to select proper material, currently available, for a specific application using the following criteria: overall quality, price, durability, color, and material from which the product is constructed. Individual topics discussed are rugs and carpets, furniture, ceramic tile, paint, wallpaper and wall coverings, hardware, textile products, glass, and building materials. (1-4) 3

***EDN 4310 Design Sketching I:** Upon completion of this course, students should be able to use drawing skills for effective communication; produce presentation sketches, point of purchase sketches, and idea development sketches as associated with the design process; and use a variety of color and black and white art media
*Prerequisite: ART 1405 (0-6) 3

***EDN 4311 Design Sketching II:** This course is a continuation of Design Sketching I, with additional skills required to make professional sketches for presentation of the designer's ideas. Upon completion of this course, students should be able to produce perspective sketches in black and white and in color; produce traditional floor plan sketches which include drop wall elevations; and use computer output as a basis for producing some of these design sketches.
*Prerequisite: EDN 4310 (0-6) 3

EDN 4312 Professional Practices and Procedures: Upon completion of this course, students should be able to write and design an initial contract form and letter of agreement, prepare a purchase order, figure wholesale discounts, and do simple job estimating. (3-0) 3

***EDN 4314 Applied Problems Studio I:** Upon completion of this course, students should be able to solve problems through analysis and critical thinking. The student should be able to recognize and plan fundamental solutions which would include function, convenience, space planning, aesthetic visual effects and budgeting. The student should be able to assemble a graphic presentation to communicate his or her interior design solutions. The student will incorporate the use of the computer as an alternative to hand drafting and word processing.
*Prerequisite: ARC 3303, ARC 3334, ARC 3326, EDN 4311 (1-6) 3

***EDN 4315 Applied Problems Studio II:** The students will continue to apply fundamental problem solving skills introduced in EDN 4314 Applied Problems Studio I. The level of complexity of the interior design projects will increase by project type and size. The students will be introduced to team planning concepts further developing their critical thinking and analyzing skills. The student should be able to accomplish additional requirements for presentations such as color illustrations produced from CAD drafting output, multiple collage boards and complete accurate specifications.
*Prerequisite: EDN 4314, ARC 3304 (1-6) 3

EDN 4316 Period Furniture and Furnishings I: Upon completion of this course, students should be able to recognize, identify, and describe the major period styles in furniture and furnishings and their influence on contemporary design, covering the period from the Egyptian through Louis XIV. (3-0) 3

***EDN 4317 Period Furniture and Furnishings II:** Upon completion of this course, students should be able to recognize, identify, and describe the major period styles in furniture and furnishings and their influence on contemporary design, covering the period from Louis XIV through the contemporary.
*Prerequisite: EDN 4316 (3-0) 3

EDN 4320 Introduction to Textiles: Upon completion of this course, students should be able to identify major categories of fibers and weaves, describe contemporary machine weaving methods and fabric finishing processes, and describe and identify contemporary fabric printing methods. (3-0) 3

***EDN 4406 Contract Interiors:** Upon completion of this course, students should be able to understand current techniques in space planning and designing interiors for commercial and institutional buildings. The student should be able to recognize and anticipate changing needs; analyze and make recommendations concerning space planning and interior design solutions befitting contemporary contract interiors; and use computer output, drafting, drawing, and specifications for final work. The students will be required to apply team problem solving processes to complex contract interior projects such as restaurant, health care facilities, retail store planning, business offices, etc.
*Prerequisite: EDN 4315, ARC 3304 (2-4) 4

***EDN 4416 Applied Problems Studio III:** Upon completion of this course, students should be able to investigate, plan, and execute interior designs for a cross-section of current interiors; solve complex interior design problems including accurate specifications and construction details; and use computer output, drafting, drawing, and specifications output for final work. The student will be expected to apply critical analysis and to produce creative solutions to the design problem solving processes. Group projects will be used to develop team approaches to project solutions and design problem solving.
*Prerequisite: EDN 4315 (2-4) 4

EDP – Computer Information Systems

EDP 1404 Computer Concepts and FORTRAN Programming I: Upon completion of this course, students should be able to define selected terms pertaining to computer systems and programming; write programs in the FORTRAN language that read and write numeric/alpha-numeric, perform arithmetic calculations, use control logic, generate reports with headings and totals; perform operations with one-dimensional arrays; and prepare data for testing a FORTRAN program. (3-2) 4

***EDP 1405 FORTRAN Programming II:** This course is a continuation of EDP 1404. Upon completion, students should be able to write FORTRAN programs for problem solutions requiring two-dimensional arrays, functions and subroutines, input/output for tape and disk files, and logical operations and output.
*Prerequisite: EDP 1404 or Departmental consent (3-2) 4

EDP 1407 Computer Concepts and PASCAL Programming I: This is an introductory programming course that emphasizes a disciplined approach to programming in PASCAL. Upon completion of this course, students should be able to solve problems by developing algorithms; code PASCAL programs involving input, output, simple and compound decision, real and integer arithmetic, character data, repeated and nested loops; and execute and debug PASCAL programs. (3-2) 4

***EDP 1408 PASCAL Programming II:** Upon completion of this course, students should be able to understand and use one-dimensional arrays and associated operations, use packed arrays for character strings, declare and manipulate records, search and sort arrays, understand sets and set operations, and use PASCAL functions.
*Prerequisite: EDP 1407 or Departmental consent (3-2) 4

EDP 1500 Computer Literacy: This course combines lecture, hands-on experience, and videotaped material to present computer concepts for computer literacy. Upon completion of this course, students should be able to understand and use computer terminology; list and define the functional units of a computer system; describe devices and basic procedures for batch and transaction (on-line) processing systems; relate problem definition to system analysis, design, development, and implementation; operate a CRT for menu-driven applications; understand basic terms and concepts of computer networks; operate a microcomputer with sample software packages; and identify computer usages. (5-0) 5

EDP 1550 Microcomputer Concepts & Applications: This is a beginning course using both lecture, demonstration, and lab to present the fundamental concepts of a microcomputer and to develop skills in operating a microcomputer for basic applications. Hands-on experience using a microcomputer is a major component of this course. Upon completion of this course, students should be able to illustrate the data flow and storage for the functional components of a microcomputer; distinguish between application and systems software; define and use basic computer terminology for the microcomputer; identify various usages of microcomputers; develop the basic skills to operate a microcomputer with the MS-DOS and Windows operating systems; develop skills in using a microcomputer for word processing, spreadsheets, and data base applications; and identify the operational environment for an individual microcomputer and a microcomputer connected to a network. (3-4) 5

EDP 2306 Computer Programming I (Business): Upon completion of this course, students should be able to develop programming logic and write COBOL programs to solve sample business problems; incorporate programming techniques for input/output, calculations, decision making, and report formatting; and verify the accuracy of program output. (2-2) 3

***EDP 2307 Computer Programming II (Business):** This is a continuation of EDP 2306. Upon completion of this course, students should be able to develop program logic and write COBOL programs for solving sample business problems, and be able to incorporate programming techniques and procedures for file processing.
*Prerequisite: EDP 2306 (2-2) 3

EDP 2525 Introduction to Business Computing: This course introduces computer hardware and software concepts, and provides hands-on experiences - using DOS commands, exploring a Windows environment, utilizing spreadsheet capabilities of Lotus 1-2-3, and accessing information via a network and PC Host communications. (4-2) 5

***EDP 3215 Microcomputer Software—LOTUS 1-2-3:** Upon completion of this course, students should be able to identify the capabilities and applications for use of the LOTUS 1-2-3 software, use the commands and operational procedures to perform functions available in LOTUS 1-2-3, and apply the LOTUS 1-2-3 software to solve lab assignments representative of problems solvable using LOTUS 1-2-3 hands-on experience.
*Prerequisite: EDP 3310 or equivalent or Departmental consent (1-2) 2

***EDP 3217 Microcomputer Software Database:** Upon completion of this course, students should be able to define selected terms and concepts used in data base design and

application; load a data base software package on a microcomputer system; create and use existing data bases; add, delete, and modify data on the data base; organize and arrange data on the data base according to specific processing requirements; and generate reports from the data base. To accomplish the objectives of this course, a typical data base software such as dBASE III+ will be used.
*Prerequisite: EDP 3310 or equivalent or Departmental consent (1-2) 2

EDP 3310 Microcomputer Operations: This course concentrates on the knowledge and skills needed to operate a microcomputer, not on programming or maintenance. Upon completion of this course, students should be able to operate keyboard (no speed training), floppy disk, and line printer; use operational commands; and use sample software packages at an elementary level for word processing, spread sheets, and file management. Microcomputers will be used for practice exercises. (2-2) 3

EDP 3311 Microcomputer Operations - Macintosh: This is a lecture/hands-on course which concentrates on the skills necessary to operate a Macintosh microcomputer, not on programming or maintenance. Upon completion of this course, students will demonstrate a working knowledge of the operating system and use sample software packages at an intermediate level for word processing, and spreadsheet and data base creation. (2-2) 3

EDP 3312 Advanced Microcomputer Operations - Macintosh: This is a lecture/hands-on course is a continuation of EDP 3311. Upon completion of this course, students will use sample software for word processing, data base and spreadsheet creation at an intermediate to advanced level, and utilize file-sharing on the Macintosh network.
*Prerequisite: EDP 3311 (2-2) 3

***EDP 3316 Advanced LOTUS:** Upon completion of this course, students should be able to use LOTUS 1-2-3 to perform tasks required by a complex spreadsheet, including a wide range of commands, various functions, extensive printing and graphic options, and the development and use of macros for routine functions.
*Prerequisite: EDP 3324 or EDP 3215 or Departmental consent (2-2) 3

***EDP 3318 Advanced dBASE:** Upon completion of this course, students should be able to use a data base such as dBASEIII+ to perform the tasks required by a complex data base system including programming with decision making, file management, and redefining screen displays.
*Prerequisite: EDP 3324 or EDP 3217 or Departmental consent (2-2) 3

***EDP 3324 Advanced Microcomputer Operations:** Upon completion of this course, students should be able to operate a microcomputer for advanced spreadsheet application including graphics; advanced word processing techniques, including desk top publishing concepts; advanced data base processing; a LAN environment; office automation of electronic mail and appointment scheduling; PC/host communication and application; and file management and backup procedures.
*Prerequisite: EDP 3310 (1-4) 3

***EDP 3335 Microcomputer Programming MS/DOS:** Upon completion of this course, students should be able to define selected terms pertaining to microcomputer systems and programming; list the hardware devices for a typical microcomputer system; use DOS commands; write procedures in MS-DOS that sort, print, copy, use control logic and edit; prepare sample files to test a MS-DOS procedure; create executable batch files; and write procedures in an interactive environment.
*Prerequisite: EDP 3310 or EDP 1407 or EDP 3405 or Departmental consent (2-2) 3

***EDP 3336 Advanced MS-DOS:** Upon completion of this course, students should be able to utilize DOS to maximize their efficiency, productivity, and creativity on the PC. They will use the IBM-extended character set and the ANSI.SYS device driver to control the display and keyboard; use printer commands; use DOS's Debug program to create, examine, or change a file; use advanced batch file techniques to set up a customized menu system for accessing application programs; control the PC's environment and configuration; set up and use a RAM disk; manage memory; create DOSKEY macros; and use DOS with Microsoft Windows.
*Prerequisite: EDP 3335 or Departmental consent (2-2) 3

***EDP 3337 OS/2 Operating System:** Upon completion of this course, students should have a working knowledge of the OS/2 operating system, including setting up a file system, loading and executing user programs in real and protected modes, and providing a communication link between the computer and its accessories.
*Prerequisite: EDP 3310 or EDP 1407 or EDP 3405 or EDP 3335 or microcomputer operational experience or Departmental consent (2-2) 3

***EDP 3339 AIX Operating System:** Upon completion of this course, students should be able to log-in to the operating system and log-out of the operating system, set up a file system, load and execute user programs, provide a communication link between the computer and its accessories, and perform multi-user time sharing and multi-tasking.
*Prerequisite: EDP 3310 or EDP 1407 or EDP 3405 or EDP 3335 or Microcomputer Operational experience or Departmental consent (2-2) 3

***EDP 3350 Introduction to Artificial Intelligence:** Upon completion of this course, through class lecture and hands-on activities in the microcomputer lab, students should be able to understand the basic concepts and procedures in the development of an Artificial Intelligence system, with a concentration on Expert Systems; understand the logic emphasis and flow for an Expert System; develop a problem-solving approach used in an Expert System; and develop a working model for a select Expert System Application using a selected software package.
*Prerequisite: EDP 3310, EDP 3335 (2-2) 4

EDP 3405 Microcomputer Programming—BASIC: Upon completion of this course, students should be able to define selected terms pertaining to microcomputer systems and programming; list the hardware devices for a typical microcomputer system; write programs in the BASIC language that read/write/calculate, use control logic, generate reports with headings and summary totals, perform operations with arrays; prepare sample data to test a BASIC program, define and explain the purpose of a menu; and write programs in an interactive environment under control of an editor. (3-2) 4

***EDP 3406 Microcomputer Programming—Advanced BASIC:** Upon completion of this course, students should be able to write programs to create/access/update data files on disk; use one-and two-dimensional array processing; use selected functions available in BASIC and write user-defined functions and subroutines; use string functions; and write programs for reports using designated print formats with headers, edited output, and summary totals for screen and printer output.
*Prerequisite: EDP 3405 (3-2) 4

***EDP 3407 Programming Business Applications for Microcomputers:** Upon completion of this course, students should be able to prepare input, output, and file formats; design and write programs in BASIC for selected accounting/business applications; code and/or explain techniques or routines used in computerizing a business application, such as data editing, sorting, merging, multileveled control breaks, calculation of days between dates, and file processing; and prepare and interpret documentation for selected accounting/business applications.
*Prerequisite: EDP 3406 (3-2) 4

***EDP 3410 C Language:** Upon completion of this course, students should be able to define selected terms pertaining to microcomputer systems and programming; write programs in C language that read/write/calculate, use structured logic, use library functions for specific tasks, generate reports, and perform operations with arrays; create, edit, store, link and execute programs and program modules in C language; write user-defined functions; prepare sample data to test a C program; and prepare programs for execution using a C compiler.
*Prerequisite: EDP 1407 or EDP 3406 or EDP 3515 or EDP 1405 or experience with a programming language or equivalent or Departmental consent (3-2) 4

***EDP 3411 Advanced C Language Programming:** Through class lecture and hands-on activities in the microcomputer lab, students will learn to use pointers on a more advanced level, manipulate data on a bit level, use preprocessor directives more extensively, utilize enumerated data types, and implement advanced I/O operations including text and binary data files.
*Prerequisite: EDP 3410 (3-2) 4

***EDP 3415 C++ Programming:** This course combines lecture and hands-on computer/programming experience in lab to present the fundamentals of C++ and object-oriented programming. Upon completion of this course, students should be able to use the features that separate C++ programming from its parent language C. These differences will include different operators and their use for traditional tasks as well as new concepts of data abstraction and object-oriented programming.
*Prerequisite: EDP 3411 or Departmental consent (3-2) 4

***EDP 3440 Assembly Language:** Upon completion of this course, students should be able to perform arithmetic operations in the hexadecimal and binary numbering systems; code selected assembly language statements; interrupt machine language instructions and read hexadecimal dumps; and write assembly language programs using techniques ranging from reading of records through address modification, loops, editing, and sorting of 1-level tables; and use macro instructions and subprograms.
*Prerequisite: EDP 3515 or Departmental consent (3-2) 4

***EDP 3450 Microsoft Windows:** Upon completion of this course, students should be able to utilize Microsoft's Graphical User Interface (GUI) Windows to maximize their efficiency and productivity in a more natural, intuitive fashion; identify and understand how to use the basic components of Windows including the pointer, icons, windows, and the Program, File, Print, and Task Managers; use Windows to launch, work in, and share data between Window and non-Window applications; and understand the basic hardware necessary and steps involved in installing and tailoring Windows for the individual's use.
*Prerequisite: EDP 3310, use of a PC with a programming language, or use of a PC with wordprocessing, spreadsheet, or data base software (3-2) 4

EDP 3514 Programming Logic and COBOL I: Upon completion of this course, students should be able to analyze given problem definitions and develop solutions from a programming viewpoint at a fundamental level with the use of pseudocode, flowcharts, and I/O specifications; write and execute structured COBOL programs for business problems involving data input, basic calculations, code checking, decision making, iterations, reports, headings, and summary totals; prepare test data and verify results of executing a COBOL program; and correct syntax and logical errors in a COBOL program. (3-4) 5

***EDP 3515 Programming Logic and COBOL II:** Upon completion of this course, students should be able to design the logic through use of flowcharts, pseudocode, and I/O specifications to handle advanced decision-making techniques, input editing, single and multiple-level control breaks, group-indicated and group-printed reports, create/update sequential disk/tape files and subprograms; write structured COBOL programs that will handle these same features; code, test, and debug programs with these features; and correct syntax and logic errors with the help of standard manuals.
*Prerequisite: A grade of C or better in EDP 3514 or Departmental consent (3-4) 5

***EDP 3516 Programming Logic and COBOL III:** Upon completion of this course, students should be able to design the logic through use of flowcharts, pseudocode, and I/O specifications to handle sorting and merging data files, single and multi-level tables, variable-length record files, single and multi-level tables, variable-length record files, files containing multiple record formats, create/update non-sequential files, reports using the REPORT WRITER feature, modification and maintenance of existing programs; write structured COBOL programs that will handle these same problems; and correct syntax and logic errors with the help of standard manuals.
*Prerequisite: A grade of C or better in EDP 3515 or Departmental consent (3-4) 5

***EDP 4284 Cooperative Work Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen

career prior to entrance into that career or occupation as full time employees.
*Permission of Department and Co-Op Staff (0-20) 2

***EDP 4285 Cooperative Work Experience II:** A continuation of EDP 4284, this course further refines the students' work experience skills. Upon successful completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess the specific requirements and responsibilities of successful employment in the field and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-op Office (0-20) 2

***EDP 4286 Cooperative Work Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen career prior entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-Op Staff (0-20) 2

***EDP 4287 Cooperative Work Experience II:** A continuation of EDP 4286, this course further refines the students' work experience skills. Upon successful completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess the specific requirements and responsibilities of successful employment in the field and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen career prior entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-Op Office (0-20) 2

***EDP 4314 Systems and Procedures:** Upon completion of this course, students should be able to summarize the state of the art in information systems design, prepare a business form, prepare and explain a project plan and feasibility report, prepare a data flow diagram for a system, prepare a record layout for an input and output file, and relate the system process to a typical application using a case problem.
*Prerequisite: ACC 1604 or BUS 1500, EDP 1500, or Departmental consent (3-0) 3

***EDP 4315 Applied Business Systems:** Upon completion of this course, students should be able to describe the components of a computer-based information system including EDP, MIS, DSS, EIS, ES, and AI; describe the most common subsystems associated with MIS including marketing, manufacturing, finance, and human resource management; conduct a systems analysis for solution of a typical business problem including considerations for hardware, software, personnel, out-sourcing/service bureaus, security, current system impact, and documentation; relate a CBIS to the data communications environment including basic terminology, network topologies, and security; and describe appropriate test considerations for data validation, program verification, and application auditability within a computer application.
*Prerequisite: EDP 4314 or Departmental consent (3-0) 3

***EDP 4317 Introduction to Data Base:** Upon completion of this course, the student should be able to describe primitive to complex data structures in terms of storage and addressing, describe in general the three models of data bases, describe the specific structure and terminology of the relational data base model, diagram data relations using entity diagrams, program a relational data base on two different computer platforms based on an instructor-supplied business problem, utilize Structured Query Language (SQL) to access the data bases programmed, describe appropriate security and audit considerations for a data base, and discuss data base information distribution in various communication networks.
*Prerequisite: A course in or experience with a programming language using file processing techniques (such as COBOL) (2-2) 3

***EDP 4330 User Support and Software Evaluation:** Upon completion of this course, students should be able to prepare proposals and make presentations evaluating hardware and software requirements to meet particular needs, detail procedures for such things as file restoration and computer virus prevention/detection, install computer software, perform data transfer between software packages, establish guidelines and procedures for data security and physical security, prepare a training module directed toward a new user of a software system, and discuss requirements and goals of an information support center.
*Prerequisite: EDP 3324, EDP 3335, EDP 3405, EDP 4314, ENG 3405, SPH 1300, and ELN 4456, or Departmental consent (1-4) 3

***EDP 4419 Microcomputer Application Systems:** Students will study a given business/office problem to be computerized; design the solution; and using spreadsheet, data base, word processing, and other software packages, implement and document the system. Students will work as a team in completion of the project, with team leadership alternating during the course. The application computerized will be a multi-step, customized system. In design and implementation of the system, components of consideration will include screen designs, file structure, data integration, report layouts, processing requirements, and other as required by the specific computerized application.
*Prerequisite: EDP 3316, EDP 3318, EDP 3324, EDP 3336, ACC 1604, EDP 4314, or Departmental consent (2-4) 4

***EDP 4425 Computer Systems I:** This course uses one of the systems available for CPCC students—OS/MVS/JES2. Upon completion of this course, students should be able to code the JCL and control statements to execute utility programs, application programs, instream procedures and catalogued procedures; create and store procedures in a procedure library; store and execute load modules; list physical and storage characteristics of disk and tape; calculate disk storage requirements for files; define an operation system and discuss IPL, SYSGEN, job processing, and other select-

ed terms; code JOB, EXEC, DD, JOBLIB, STEPLIB, //*PROCLIB, /*, //, and //* statements; use utility manuals; and use catalogued files.
*Prerequisite: EDP 3514 or Departmental consent (3-2) 4

***EDP 4435 Computer Systems II:** This course uses both the OS/MVS/JES2 and DOS/VSE/ESA operating systems. Upon completion of this course, students should understand how a job flows through a computer system, be able to sort files, define and use generation data sets, create VSAM clusters and store data in them, use the DOS operating system to compile, execute programs that create sequential and VSAM files, and use the manuals to debug JCL.
*Prerequisite: EDP 4425 or Departmental consent (3-2) 4

***EDP 4444 RPG Programming:** Upon completion of this course, students should be able to code, test, and debug RPG III programs on an AS/400 using simple input/output, calculations, structured operation codes including IF, IF/ELSE, DO, EXCPT, and internal subroutines, single and multiple control levels; utilize the RPG logic cycle as well as full procedural file processing; use internal and external file definitions; and develop program logic and design reports.
*Prerequisite: A course in or experience with a programming language (3-2) 4

***EDP 4445 Advanced RPG Programming:** Upon completion of this course, students should be able to incorporate array and table processing in RPG III programs on an AS//400; use SAA/CUA standards to design screens; define and test display record formats using DDS and SDA; code, test, and debug interactive programs for inquiry, data entry, and file maintenance; use full procedural operation codes to update data base files; and define and process subfiles for display, data entry, and data base updates.
*Prerequisite: A grade of C or better in EDP 4444 or Departmental consent (3-2) 4

***EDP 4516 CICS:** Upon completion of this course, students should be able to state the differences between Online and Batch programs; list the common characteristics of online applications; describe the qualities needed by a good telecommunications monitor; describe the data flow within the Customer Information Control System/Virtual Storage (CICS/VS) telecommunication monitor; define important tables and storage areas utilized by CICS/VS; code, access and catalog physical and symbolic map descriptions (Screen formats) using the BASIC Mapping Support (BMS) facility of CICS/VS; code, compile, and execute Command Level COBOL programs for file record inquiry, file record creation, file record update, file record deletion, file browsing, link and transfer of control between independent programs; and define the CICS/VS statements necessary to use temporary storage.
*Prerequisite: A grade of C or better in EDP 3516 or Departmental consent (3-4) 5

***EDP 4517 Batch Data Processing Applications:** Upon completion of this course, students should be able to identify the approach steps in design and programming of a batch business data processing application and use these steps in the design of a specific application; write programs to create and process files on tape and/or disk as required by the selected business application; write programs to include and/or state various programming requirements and techniques used in batch business application programming, such as the logic for matching, merging, data editing, multi-level control breaks, table processing, and various report formats; and code the required JCL for programs and utilities as needed in implementing the application.
*Prerequisite: A grade of C or better in EDP 3516, EDP 4425, EDP 4314 (3-4) 5

***EDP 4518 Real Time Data Processing Application:** Upon completion of this course, students should be able to identify the approach steps in design and programming of a real time business data processing application and use these steps in design and programming of a specific application; work on a programming team in programming a complete application; make decisions regarding files, number, and scope of programs, and others regarding a particular computerized application; write programs to implement a particular application with VSAM file processing; and code the required JCL for programs and utilities as needed in implementing the application.
*Prerequisite: A grade of C or better in EDP 4516, EDP 4315, EDP 4317 (3-4) 5

***EDP 4546 Programming Business Applications in RPG:** Upon completion of this course, students should be able to use these steps in the System Development Cycle to design and develop a business application which incorporates both interactive and batch processing; design data base files using normalization; define/create physical and logical files using DDS and DFU; determine and design the necessary screens; determine program definitions; identify needed subfiles; and code, test, and debug the RPG III programs on an AS/400 to implement the selected business application.
*Prerequisite: A grade of C or better in EDP 4445 and EDP 4314 or Departmental consent (3-4) 5

***EDP 4550 AS/400 Operations and Command Language:** Upon completion of this course, students should understand how an AS/400 is structured, its basic operations, and its Command Language (CL) commands. CL programming is introduced and used to send job streams and programs. Students will spend time in the classroom and AS/400 computer lab. In the lab, students will use the AS/400 operation system, DFU, query, SEU, and CL programs.
*Prerequisite: EDP 5313 or EDP 4444 or experience in computer programming or computer operation or Departmental consent (3-4) 5

EDP 5201 CRT Use in Business Applications: The CRT (Cathode Ray Tube display/keyboard) is more prominent as the computer becomes accessible to all areas of business. This course is designed to familiarize students with the general use of the CRT. Upon completion of this course, students should be able to describe the properties of CRT use, define the general use of functional keys, obtain particular display screens upon request, use the CRT effectively for a menu-driven application, and perform the basic business transaction typically processed on a CRT. (2-0) 2

***EDP 5284 Cooperative Education Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen

career prior entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-Op staff (0-20) 2

***EDP 5285 Cooperative Education Experience II:** A continuation of EDP 5284, this course further refines the students' work experience skills. Upon successful completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess the specific requirements and responsibilities of successful employment in the field and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-Op staff (0-20) 2

***EDP 5313 Introduction to Computer Operations:** Upon completion of this course, a student should have knowledge of a mainframe computer operator's duties in the operation of printers, magnetic tape drives, disk drives, and operator console messages. Also, the student will have knowledge of the major parts of an operating system.
*Corequisite: EDP 1500 (3-0) 3

***EDP 5524 General Data Processing Applications:** Upon completion of this course, students should be able to code the DOS and power JCL necessary to execute programs stored in a library and code the JCL for files to be used by the program; draw system operational flow charts; read a selected operator run sheet to determine devices, files backup and rerun procedures, type forms, form distribution, transaction/master file storage, and special control records for the jobs; prepare master file and transaction file records for a selected business data processing application; prepare a run schedule; run the programs and verify the results for a selected business data processing application; use return codes in controlling job step execution; and define selected terms associated with business data processing applications.
*Prerequisite: EDP 5614, ACC 3600
Corequisite: EDP 3514. (4-2) 5

EDP 5601 Data Entry I-A: This is the first course in a three-course evening sequence (EDP 5601, EDP 5602, and EDP 5603) equivalent to the two-course day sequence (EDP 5901 and EDP 5902). This course is the same as the first two-thirds of EDP 5901. Upon completion of this course, students should be able to identify records, describe the process of record formatting, utilize various source documents, define selected terms related to data entry, use a data entry workstation at an elementary level, and attain an acceptable level of accurate keystrokes per hour. In lab, students will use a PC workstation connected to a midrange computer system. (3-9) 6

***EDP 5602 Data Entry I-B and II-A:** This is the second course in a three-course evening sequence (EDP 5601, EDP 5602, and EDP 5603) equivalent to the two-course day sequence (EDP 5901 and EDP 5902). This course is the same as the last one-third of EDP 5901 and the first one-third of EDP 5902. Upon completion of this course, students should be able to recognize data errors and correct them, verify records, insert and delete records, perform operational procedures for transferring data from one medium to another, operate a data entry workstation at an intermediate level, and attain an acceptable level of accurate keystrokes per hour. In lab, students will use a PC workstation connected to a midrange computer system.
*Prerequisite: EDP 5601 or consent of instructor (2-12) 6

***EDP 5603 Data Entry II-B:** This course is the third course in a three-course evening sequence (EDP 5601, EDP 5602, and EDP 5603) equivalent to the two-course day sequence (EDP 5901 and EDP 5902). This course is the same as the last two-thirds of EDP 5902. Upon completion of this course, students should be able to operate a data entry workstation at an advanced level, define the principles of the batch/edit routine, update records, append records to a batch, search and modify records, define the principles of program development of data entry applications, and attain an acceptable level of accurate keystrokes per hour. In lab, students will use a PC workstation connected to a midrange computer system.
*Prerequisite: EDP 5602 or consent of instructor (3-9) 6

***EDP 5614 Mainframe Computer Operations — VSE:** Upon completion of this course, students should know the libraries used on a VSE system, understand the use of paging and virtual storage, know the commands to IPL the system, know how to allocate storage and start both virtual and real partitions, assign I/O devices through the use of JCL, identify the purpose and function of VSE/POWER, and use POWER operator commands and JECL statements.
*Prerequisite: EDP 1500, EDP 5313 (5-2) 6

***EDP 5615 Mainframe Computer Operations —MVS:** Upon completion of this course, students should be able to trace the job flow in a multitasking computer environment, list the purpose and types of JCL statements for MVS, use manuals to code JCL statements to execute selected utility programs, define the various features of an operating system, and define MVS operator commands and interpret MVS operator messages.
*Prerequisite: EDP 1500, EDP 5313
Corequisite: EDP 3514 (5-2) 6

EDP 5901 Data Entry I: Upon completion of this course, students should be able to identify records, describe the process of record formatting, recognize data errors and correct them, utilize various source documents, define selected terms related to data entry, verify records, insert and delete records, use a data entry workstation at an elementary level, and attain an acceptable level of accurate keystrokes per hour. In lab, students will use a PC workstation connected to a midrange computer system. (4-15) 9

***EDP 5902 Data Entry II:** Upon completion of this course, students should be able to operate a data entry workstation at an advanced level, define the principles of program development of data entry applications, search and modify records, perform operational procedures for transferring data from one medium to another, update records, append records to a batch, define the principles of the batch/edit routine, and attain an acceptable level of accurate keystrokes per hour. In lab, students will use a PC workstation connected to a midrange computer system.
*Prerequisite: EDP 5901 or consent of instructor (4-15) 9

ELC – Electrical Installation and Maintenance

ELC 5200 Electrical and Building Trades Blueprint Reading: Upon completion of this course, students should be able to interpret schematics and blueprints applicable to electrical installation; draw floor plans and indicate the electrical outlets as required by the National Electrical Code; read sectional views; explain specifications related to the building trades; discuss the types of materials used in construction trades; determine branch circuit sizing for lighting, motors, and electrical equipment; explain three-phase and single-phase services. (1-2) 2

***ELC 5296 Electrical Installation and Maintenance Co-Op:** Upon completion of this course, students should be able to apply the skills acquired in electrical installation and maintenance courses to actual working situations in the electrical installation and maintenance industry; produce a worklog sheet containing the types and number of job tasks completed in the industry during the cooperative work experience; and demonstrate exemplary attendance and work habits.
*Prerequisite: Minimum of two quarters of Electrical Installation and Maintenance Program courses (0-20) 2

ELC 5302 Instrumentation: Upon completion of this course, students should be able to discuss basic industrial instrumentation when applied to temperature, pressure, level, flow, humidity transmission and control; apply instrumentation theory; adjust and calibrate instrumentation devices. (2-3) 3

ELC 5310 Electrical Schematics: Upon completion of this course, students should be able to identify symbols and abbreviations used in control circuits; draw one-line diagrams illustrating power and branch circuits; change a wiring diagram into a ladder diagram; describe how disconnects, overcurrent protection, overload relays, control devices, and motors are used in control circuits and how each is represented on a schematic. (2-3) 3

ELC 5400 Direct Current: Upon completion of this course, students should be able to describe the electrical structure of matter and electron theory; demonstrate a knowledge of the relationship between voltage, current, and resistance in series, parallel, and series-parallel circuits; demonstrate a working knowledge of Ohm's Law and Kirchoff's Law; describe the sources of direct current voltage potentials; analyze electrical circuits using appropriate instruments and schematic diagrams. (2-6) 4

ELC 5401 Basic Calculations for Electricians: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems related to the electrician's trade; calculate ratio and proportion; manipulate fractional and decimal numbers; use algebraic equations to solve problems encountered in the electrical field; understand trigonometric functions and their application to right angles; describe vectors and their use in alternating current applications. (4-0) 4

***ELC 5402 Alternating Current:** Upon completion of this course, students should be able to explain how electrical properties such as capacitance, inductance, voltage, amperage and resistance affect the circuit; list and describe the use of test instruments and how they are connected in a circuit; describe the principle of magnetism and electromagnetism; calculate the value of RMS, average, or peak-to-peak voltages for alternating current.
*Prerequisite: ELC 5400 (3-3) 4

***ELC 5403 Commercial and Industrial Wiring II**: Upon completion of this course, students should be able to plan and lay out wiring systems in industrial complexes, install bus duct and underfloor duct systems, install motors and auxiliary devices and perform maintenance on all systems.
*Prerequisite: ELC 5404 (2-6) 4

ELC 5404 Commercial and Industrial Wiring I: Upon completion of this course, students should be able to plan and lay out wiring systems in commercial complexes, install service and feeders using metallic and non-metallic conduit and wires, install panelboards and switchboards, perform maintenance on all systems, and describe causes of electrical energy waste and methods to improve operating efficiency. (2-6) 4

ELC 5410 Residential Wiring I: Upon completion of this course, students should be able to read prints related to the installation of electrical wiring and components in residences; plan, lay out and install wiring and electrical components in residential applications; become familiar with electrical devices, raceways, conductors, and boxes; state the National Electrical Code regulations for typical residential applications. (3-3) 4

ELC 5411 Industrial Electronics: Upon completion of this course, students should be able to describe the fundamentals, operating characteristics and application of solid state devices, electronic theory as it applies to circuit protective devices, relays, limit switches and sensing devices; describe electro-mechanical logic; disassemble, replace parts and reassemble electro-mechanical devices. (3-3) 4

***ELC 5425 Residential Wiring II:** Upon completion of this course, students should be able to read prints to determine types of circuits used and determine where they are located; determine size of wiring required for special circuits; compute service-entrance conductor size; compute raceways and conductor sizes; install wiring for heating and air conditioning equipment; state the National Electrical Code regulations as they pertain to residential applications.
*Prerequisite: ELC 5410 (2-6) 4

ELC 5426 Programmable Controllers I: Upon completion of this course, students should be able to change decimal numbers into binary, octal, binary coded octal, or hexadecimal values; demonstrate various types of logic circuits and their truth tables; program programmable controllers for simple commands; describe AND, NAND, OR, NOR, and NOT logic; calculate the outcome of combining different types of logic. (2-6) 4

***ELC 5427 Programmable Controllers II:** Upon completion of this course, students should be able to install input/output devices to the processor; describe how programmable controllers are used to control circuits without the use of external timers, counters, relays, and other electrical devices; explain the use of analog to digital and digital to analog converters; program complex circuits.
*Prerequisite: ELC 5426 (2-6) 4

ELC 5450 Machines and Controls I: Upon completion of this course, students should be able to describe the fundamental concepts in single-phase and poly-phase alternating

current circuits, list symbols and abbreviations relating to motor controls, explain the use of transformers and their connections for particular applications, wire basic control circuits, identify types and disassemble and assemble contactors and motor starters. (2-6) 4

***ELC 5455 Machines and Controls II:** Upon completion of this course, students should be able to describe the difference in single-phase motors and three-phase motors; explain how a direct current motor operates; change motor rotation; use time-delay relays, counters, timers, limit switches, pressure switches, and other control devices in control circuits; list reasons for preventive maintenance.
*Prerequisite: ELC 5450 (2-6) 4

ELN – Computer/Electrical/Electronics Engineering Technology

ELN 3100 Computer/Electrical/Electronics Orientation: Upon completion of this course, students should have received an orientation to the College and to the Computer/Electrical/Electronics Engineering Technology programs, including the services and personnel available; have explored available electrical/electronic course specialization and associated career path opportunities, as well as continuing education possibilities, including the Bachelor of Engineering Technology (BSET) programs, and the benefit of membership in professional organizations, including the student section of IEEE; and have heard speakers from industry discuss their individual needs and what they look for when selecting graduates for employment. (1-0) 1

***ELN 3404 Electronics I:** Upon completion of this course, students should be able to demonstrate a working knowledge of semiconductor diodes and their application in basic rectifier circuits, design proper DC bias for Class A transistor amplifiers, analyze the performance of small signal transistor amplifier circuits using simplified signal models, and analyze the biasing and power efficiency of Class B amplifiers.
*Prerequisite: ELN 3515 (3-3) 4

***ELN 3405 Electronics II:** Upon completion of this course, students should be able to utilize operational amplifier specification data to select and/or determine necessary discrete components and power requirements for common integrated circuit operational amplifier applications; design circuit applications for oscillators, comparators, inverting and non-inverting amplifiers, voltage regulators, zero cross detectors, and waveform generators; specify component characteristics, and assemble and test controlled power switching circuits and power supply regulators.
*Prerequisite: ELN 3404 (3-3) 4

***ELN 3414 Industrial Instrumentation:** Upon completion of this course, students should be able to specify an appropriate input transducer for interface in an electronic control system for measurement of temperature, pressure, light, et al; specify appropriate output control element requirements and/or device for recording, display, and process control; integrate input and output transducers with electronic signal conditioners (e.g., op-amps) and control systems; and interface digital and analog devices with industrial control equipment.
*Prerequisite: ELN 3405 (3-3) 4

***ELN 3514 Basic Electricity (DC):** Upon completion of this course, students should be able to calculate voltage, current, resistance, power, and energy of series, parallel and combination series-parallel resistive circuits with DC power supplies; calculate equivalent resistance; measure these circuit parameters and verify the results of calculations; properly use laboratory test equipment to measure circuit parameters; interpret passive circuit diagrams and symbols; interconnect components shown on standard circuit diagrams to produce functioning circuits; calculate voltage, current, charge and energy of series, parallel and combination series-parallel resistive-capacitive-inductive steady state circuits with DC power supplies; calculate equivalent capacitance and inductance; predict the instantaneous values of voltage and current in R-C and R-L circuits given a switch transition in the circuits; calculate instantaneous values of voltage, current, charge, and energy in series R-C and series R-L circuits; and calculate the time constants and settling time for R-C and R-L circuits.
*Corequisite: MAT 3507 (3-6) 5

***ELN 3515 Basic Electricity (AC):** Upon completion of this course, students should be able to select values of R, C, and L required to produce any desired voltage, current, and impedance in AC circuits; analyze R-L-C series, parallel and combination circuits and draw phasor diagram representing voltage and current, impedance diagrams representing resistance and reactance; calculate L-C values required in resonant circuits; analyze resonant circuits; correct power factor when required and calculate true power, apparent power, and reactive power in AC circuits; and select proper transformers in low frequency circuits for impedance matching, voltage step-up or step-down, and test for proper operation in these circuits.
*Prerequisite: ELN 3514
Corequisite: MAT 3508 (3-6) 5

***ELN 4100 Technical Career Planning:** Upon completion of this course, students should be able to identify and define the various career roles available to the Computer and Electrical/Electronics Engineering Technician, write an acceptable resume, and demonstrate satisfactory skills required in the job-hunting process.
*Prerequisite: ELN 3405 (1-0) 1

***ELN 4284 Cooperative Work Experience:** Upon completion of this course, students should be able to apply skills acquired in Computer/Electrical/Electronics Engineering Technology to actual work situations, perform work related skills involved in the specific job held, gain applied experience which complements class and lab learning, evaluate their own performance on the job held.
*Prerequisite: 45 credit hours earned in residence toward Engineering Technology degree, permission of Co-Op Office, and COE 3100 (0-0-20) 2

***ELN 4285 Cooperative Work Experience II:** This is a continuation of ELN 4284. Upon completion of this course, students should be able to apply, with greater competence, skills acquired in Computer/Electrical/Electronics Engineering Technology to actual work situations, perform work related skills involved in the specific job held, gain more applied experience which complements class and lab learning, evaluate their own performance on the job held.
*Prerequisite: ELN 4284 and permission of Co-Op Office (0-0-20) 2

***ELN 4326 Electrical-Electronics Project:** Upon completion of this course, students should be able to lay out and produce a printed circuit board, install components, test the circuit, evaluate performance, and provide a detailed technical report on the project.
*Prerequisite: ELN 3405, ELN 4464, ENG 3405 (1-6) 3

***ELN 4345 Advanced E/E Topics:** In this course, students will solve a wide variety of problems illustrating advanced applications of Electrical/Electronics principles. Topics may include microprocessor applications and design, power electronics and control, programmable logic controllers (PLCs), medical electronics, and advanced communications. Specific topic(s) may vary from quarter to quarter.
*Prerequisite: ELN 3405 and consent of Program Director (1-6) 3

***ELN 4355 Laser Technology:** Upon completion of this course, students should be able to demonstrate proper safety procedures when operating a laser or a laser system; operate helium-neon and semiconductor lasers; know the principles of lasing, laser design, properties of laser light, laser classification and their characteristics, biological effects of laser radiation, and laser safety standards.
*Prerequisite: ELN 3404 (2-3) 3

***ELN 4401 Planning Electrical Installations:** Upon completion of this course, students should be able to have an understanding and appreciation for the value of the Underwriters Laboratories and the National Electrical Code, use the N.E.C. to determine safe standards for planning electrical installation, plan and calculate lighting and power systems for commercial and industrial installations, and estimate and specify commercial and industrial lighting and power systems.
*Prerequisite: ELN 3515 (3-3) 4

***ELN 4414 Introduction to RF Communications:** Upon completion of this course, students should be able to calculate and measure the resonant frequency of various L-C circuit combinations; calculate and measure bandwidth of resonant L-C circuits; draw block diagrams and trace signal of typical AM and FM receivers and transmitters; perform alignment of receiver and transmitter coupling circuits for acceptable performance by using appropriate test and measuring equipment and techniques; and perform technical analysis of AM and FM receiver and transmitter circuits as follows: frequency multipliers, small signal and large signal voltage and power amplifiers, oscillators, and AM and FM detectors.
*Prerequisite: ELN 3405 (3-3) 4

***ELN 4415 Industrial Programmable Controllers:** This course presents the basic principles and practical applications of Programmable Logic Controllers (PLCs). Upon completion of this course, students should be able to convert relay ladder diagrams to PLC programs; design PLC programs for practical industrial applications; utilize basic discrete PLC instructions including contacts, coils, internal relays, shift registers, timers and counters; and utilize math, relational and analog input and output functions to execute programs in the laboratory controlling the simulated operation of typical industrial control systems.
*Prerequisite: ELN 4427 or consent of Program Director (3-3) 4

ELN 4416 Computer Maintenance I: Upon completion of this course, students should be able to identify the various components of a microcomputer system; use diagnostic software to aid in troubleshooting and in the routine maintenance of microcomputers; properly install new hardware and software, such as printers, plotters, LAN cards, serial ports, etc.; install software drivers in the support of new hardware devices; use appropriate diagnostic methods to localize and repair hardware problems at the board level; and show competence in the theory of operation of microcomputers and peripheral devices. (3-3) 4

***ELN 4424 Computer Maintenance II:** This course is a continuation of ELN 4416 Computer Maintenance I. Upon completion of this course, students should be able to troubleshoot a microcomputer and its peripheral devices (such as printers, monitors, disk drives, and MODEMs) to the component level using software, logic analyzers, oscilloscopes, voltmeters, and ohmmeters; perform routine preventive maintenance on the microcomputer and its peripheral devices; and document all procedures related to the repair of faulty equipment or the preventive maintenance routinely performed on this equipment.
*Prerequisite: ELN 4427, ELN 4416 (3-3) 4

***ELN 4427 Digital Circuits I:** Upon completion of this course, students should be able to specify the improvements and advantages that digital circuitry provides in electronic equipment and devices; use binary numbers and codes to perform binary arithmetic; read logic diagrams and use manufacturers' specifications to determine operating characteristics and functions of digital circuits; draw a digital schematic circuit using proper drafting techniques; reduce digital expressions by using laws and theorems of Boolean algebra and Karnaugh maps; implement circuitry using AND, NAND, NOR, and inverter gates; explain the difference between R-S, D, and J-K flip-flops; recognize the difference between level vs. edge triggering and synchronous vs. asynchronous inputs; understand the significance of propagation delays, set-up time, hold time, and maximum frequency as it applies to flip-flops; and construct and verify the operation of various digital circuits in a laboratory setting. Students will be encouraged to develop critical thinking skills through hands-on, troubleshooting, problem solving, team work activities.
*Prerequisite: ELN 3404 (3-3) 4

***ELN 4434 Digital Circuits II:** Upon completion of this course, students should be able to utilize decoder circuitry to drive LEDs for displaying readouts, use both astable and monostable multivibrators for timing and control of digital circuits, use multiplexer and demultiplexer ICs, demonstrate an understanding of data busing concepts, use digital to analog and analog to digital converters to interface electronic circuitry, implement addressing and movement of data in RAM and ROM, recognize J-K flip-flop as the building block for the design of counters and storage and shift registers, use synchronous and asynchronous counter ICs, cascade several counters to achieve a higher modulus, use adder ICs, draw a microcomputer system in block diagram form, and explain the operation of a basic microprocessor.
*Prerequisite: ELN 4427 (3-3) 4

***ELN 4436 Systems Correction Procedure:** Upon completion of this course, students should be able to diagnose defects in E/E circuits or systems given appropriate diagrams and operational specifications; evaluate in the laboratory their test results on an assigned circuit or system; and define repair procedures necessary to return equipment to a normal

operating condition. Test equipment consisting of EVM, ammeter, oscilloscope, signal generators, and frequency counter will be used in the troubleshooting repair process.
*Prerequisite: ELN 3405 (3-3) 4

***ELN 4437 Robotics:** Upon completion of this course, students should be able to understand robot terminology; classify robots and robotic systems by geometry, power source, application, path control, and intelligence; identify safety precautions necessary in a robotics/automation environment; identify basic end of arm tooling considerations; demonstrate an understanding of the advantages and operation of both open loop and closed loop control systems; design software for teaching and operating a robot for performance of a specified task; demonstrate an understanding of sensor and system interface requirements between the robot and support hardware; identify, troubleshoot, and correct basic hardware/software problems; design a robot software/hardware project using a computer for control; demonstrate an understanding of basic controller operation; and effectively use wiring diagrams and maintenance manuals in isolating and debugging system problems.
*Prerequisite: ELN 4427, EDP 1407 (3-3) 4

***ELN 4444 Network Analysis:** Upon completion of this course, students should be able to determine series and parallel equivalent circuits; simplify DC and AC circuits to Thevenin and Norton equivalent circuits; calculate electrical properties of DC and AC network circuits using superposition, mesh and nodal analysis; transform delta equivalent circuits to wye, and wye to delta; and experimentally prove the above in the laboratory.
*Prerequisite: ELN 3515, MAT 3508 (3-3) 4

***ELN 4445 Advanced Programmable Logic Controllers:** This course presents advanced principles and practical applications of programmable logic controllers (PLCs). Upon completion of this course, students should have an understanding of basic industrial process control types, industrial communication links including RS-422 and 4-20 ma. current loop, networking principles; design PLC programs involving analog inputs and outputs, and data collection; and utilize sensors, status displays, and networking in the laboratory to control various simulated industrial process and control systems.
*Prerequisite: ELN 4415 or consent of the Program Director (3-3) 4

***ELN 4456 Local Area Networks:** Upon completion of this course, students should be able to install and manage a local area network, design and implement an effective network directory structure, establish and maintain network user accounts, establish effective security utilizing basic network security capabilities, establish the user environment, load and update application software, interconnect multiple LAN segments, and set up and manage network printing.
*Prerequisite: EDP 3335 or consent of Program Director (3-3) 4

***ELN 4464 Electronic Circuit Design (CAD) I:** Upon completion of this course, students should be able to demonstrate an understanding of the graphic language of CAD; identify the components of a CAD system; have a working knowledge of basic commands; draw elements of drawings, such as line, circles, arcs, curves, etc.; draw basic electrical/electronic circuits, including schematic diagrams, wiring diagrams, and printed circuit layout; and use a plotter to prepare artwork ready for exposure.
*Corequisite: ELN 3404 (2-6) 4

***ELN 4465 Electronic Circuit Design (CAD) II:** Upon completion of this course, students should be able to identify existing library symbols and create new figures as needed; create schematic diagrams using stored symbols and connect them together assigning all pin numbers, reference designators, values, and part numbers; create printed circuit board outline and place components on the board; merge the information from the schematic and printed circuit board files so that all connecting nodes are correctly identified; use routing features to make the required connections among components to complete the design and layout of a complex electronic circuit; and generate plot files for pen-plotting and photo-plotting.
*Prerequisite: ELN 3405, ELN 4427, ELN 4464 (2-6) 4

***ELN 4466 Advanced Local Area Networks:** This course is a continuation of ELN 4456, Local Area Networks. It is designed to provide advanced training for network technicians, supervisors, and administrators. Upon completion of this course, students should be able to install and manage a local area network; establish effective network security by assigning rights and privileges appropriate to users, groups, and managers; install external and remote routers; establish network management strategies; monitor system performance and optimize operating parameters; install and use remote management capabilities; identify communication protocols and packet formats utilized in a LAN environment; establish remote computing capability for network users; and integrate multiple workstations and/or servers-platforms on the network.
*Prerequisite: ELN 4456 (3-3) 4

***ELN 4468 Advanced Microprocessors:** Upon completion of this course, students should be able to write software for a 16/32 bit microprocessor with the aid of an editor, assembler, and simulator; test and debug software with the aid of a simulator; and interface I/O devices to the microprocessor system.
*Prerequisite: ELN 4547 (3-3) 4

***ELN 4474 Electro-Optics:** Upon completion of this course, students should be able to understand the fundamentals of operation and circuit applications for optical electronic devices, including displays, optocouplers, photodiodes, phototransistors, detectors, and photovoltaic cells; use electro-optic components for control and data transmission; and evaluate system performance parameters, including supply voltage, drivers, multiplexing, strobing, spectral peak wavelength, and aging problems.
*Prerequisite: ELN 3405 (3-3) 4

***ELN 4475 Fiber Optics:** Upon completion of this course, students should be able to specify the advantages that optical fibers provide over conventional cables, define fiber types and mode characteristics, couple light sources into fibers, prepare and inspect fiber ends, splice fiber and install connectors, measure numerical aperture and attenuation, use an Optical Time Domain Reflectometer to measure fiber length and to locate anomalies.
*Prerequisite: ELN 3405. (3-3) 4

***ELN 4485 Microwave Communications:** Upon completion of this course, students should be able to recognize and apply microwave devices and components, select microwave transmission lines and matching devices, tune microwave

cavities, select and apply microwave solid-state and vacuum tube devices, produce and understand a block diagram of a microwave receiver, and perform accurate microwave power measurements.
*Prerequisite: ELN 3405 (3-3) 4

***ELN 4505 Power Electronics:** Upon completion of this course, students should be able to perform basic circuit design; select components, breadboard in the lab; and evaluate operational performance of the following industrial electronic circuits: industrial rectifiers, thyristor phase shift control, electronic DC motor control, switching transistor power control, variable frequency AC motor control.
*Prerequisite: ELN 4525, ELN 3405 (3-6) 5

***ELN 4525 Electrical Machines I:** Upon completion of this course, students should be able to specify the factors required to induce a voltage and develop force in simple generators and motors; show visually the physical relation and polarities of the above factors; calculate induced voltage in generators; calculate developed force and torque in motors; calculate the electrical quantities of current, voltage, power, power factor, phase angle, voltage regulation, efficiency, and the physical quantities of torque, speed and horsepower for DC generators, DC motors, transformers, alternators, three-phase motors, and single-phase motors; and select and wire motors, generators, transformers, meters, and loads in the laboratory as required to obtain operational data and evaluate performance of the above.
*Prerequisite: ELN 3515
Corequisite: PHY 1404 (3-6) 5

***ELN 4526 Electrical Machines II:** Upon completion of this course, students should be able to analyze and evaluate the electrical and mechanical characteristics of synchronous motors, alternators in parallel, three-phase transformers, and autotransformers; perform motor, generator, and transformer efficiency evaluations, and compute efficiencies at various operating loads; determine, select, and evaluate overload and short circuit protective devices for optimum motor protection; design and evaluate performance of various AC and DC motor control circuits; and conduct laboratory experimentation as required to obtain operational data and evaluate performance of the above devices and circuits.
*Prerequisite: ELN 4525 (3-6) 5

***ELN 4547 Microprocessors I:** Upon completion of the course, students should be able to utilize a microprocessor-based system for digital control and monitoring; interpret specifications and characteristics of the integrated circuitry associated with a microprocessor, including RAM, ROM, PROM; demonstrate the application of peripheral devices which interface with a microprocessor; interpret machine instructions and trace their execution through a typical system; write programs using both machine and assembly language; and execute and debug programs using individual microcomputer systems.
*Prerequisite: ELN 4427, EDP 1407 (3-6) 5

***ELN 4557 Microprocessors II:** Students will utilize critical thinking concepts to design, test and troubleshoot assembly language and machine language programs for the M68000 microprocessor. Upon completion of this course, students should be able to design a monitor program for a microprocessor-based system and design appropriate I/O interfacing and write the necessary software with the aid of an editor, assembler, and logic analyzer.
*Prerequisite: ELN 4547 (3-6) 5

***ELN 4567 Microcomputer System Design:** Students will utilize critical thinking concepts in a group project to design a working memory and I/O interface to an existing 68000 development system. Upon completion of this course, students should be able to design and construct a working microprocessor-based system, including the appropriate I/O and memory interfaces. Students will use a variety of test equipment including a logic analyzer to test and troubleshoot the system.
*Prerequisite: ELN 4547 (3-6) 5

ENG – English

ENG 1300 News Writing: In this course students will learn basic reporting techniques and produce news stories in a newsroom-like setting in which they compose and edit news stories using computers and word processing software. Upon completion of the course, students will be able to use the information-gathering process to report, write, and edit news stories for print media; analyze the publisher-editor-writer-audience relationship; and show knowledge and understanding of the basic principles of press law and ethics.
*Prerequisite: ENG 1504 or consent of Department Head (3-0) 3

***ENG 1325 Advanced Creative Writing:** For students with creative work already in progress, this course probes the practical aspects of technique, style, and development with an emphasis on the short story and poetry. Students' writings are analyzed in class. Attention is given to the process of revision, refining and shaping the work into a polished form.
*Prerequisite: ENG 1524 or consent of Department Head (3-0) 3

ENG 1333 Science Fiction: In this course, science fiction is studied in historical perspective. Upon completion of the course, students should be able to differentiate between science fiction and other literary genres, trace the themes and development of science fiction, and recognize the influence of science fiction on contemporary culture. (3-0) 3

ENG 1334 The Novel: In this course, five works selected from international literatures are studied. Upon completion, students should have an understanding of the novel as a literary genre and a knowledge of the cultural tradition out of which each work emerged, be able to differentiate between the literary methods and techniques of the respective writers, and have discovered the novel as a representation of life. (3-0) 3

ENG 1335 Classic Fairy Tales: This course is designed to explore the fairy tale as a literary art form with distinct archetypal patterns. Upon completion, students should be able to analyze fairy tales from a structural, social, psychological, and archetypal perspective. (3-0) 3

***ENG 1504 English Composition I:** This course deals with the development and improvement of thinking skills and the effective use of language, particularly in writing multi-paragraph assignments. Upon completion of this course, students should be able to recognize and use such logical processes as causation, comparison-contrast, classification, and analysis;

be able to evaluate and revise their own writing; and be able to use word processing to facilitate revision. They also should be able to identify and use strategies for writing timed essays.
*Prerequisite: Approved placement examination score, or a grade of C or better in ENG 9510 or (for International Students) ESL 1600, or consent of Department Head (5-0) 5

***ENG 1505 English Composition II:** This course is designed to provide students with opportunities to develop critical thinking skills which will be used in interpreting literature and writing analytical compositions about short fiction and either drama or poetry. Upon completion of this course, students should be able to write critically and objectively and to use basic research techniques to write a formally documented research paper.
*Prerequisite: ENG 1504 or consent of Department Head (5-0) 5

ENG 1524 Creative Writing: This course is designed to provide students with the opportunity to practice the art of creative writing, to find pleasure in writing as a means of self-expression, and to discover some essential techniques of crafting the poem and/or the short story. Emphasis is placed on the basic elements of fiction and poetry. Students' writings are read and critiqued in class. (5-0) 5
Note: This course is a Writing Intensive Elective for UNCC.

ENG 2308 Report Writing: In this course, students will learn to design and implement procedures for gathering, analyzing, and refining data used in a variety of writing situations that occur in the workplace, including informal and formal reports. In addition, students will learn techniques to increase writing fluency and clarity. (3-0) 3

***ENG 2314 Contemporary Fiction:** This course is a study of writers who have published distinguished fiction since 1945. Upon completion, students should have studied selected works of these writers; recognized philosophical, ethnic, regional, and stylistic trends reflected in the literature; and have greater competence in analyzing literature.
*Prerequisite: ENG 1505 or consent of Department Head (3-0) 3

ENG 2324 The Bible as Literature: This course is a study of selected portions of the Bible. Upon completion, students should recognize the Bible as literature, containing myth, legend, saga, lyric poetry, drama, short story, and biography; be able to identify Judeo-Christian ideas as they are reflected in the material studied; be able to state changes in concepts and values during the span of Biblical history. (3-0) 3

***ENG 2390/ENG 2590 Individual Study:** This course provides students with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the Department. Objectives will be determined by the student and the sponsoring instructor.
*Prerequisite: Approval of the sponsoring instructor and the Department Head (3-0) 3

***ENG 2504 British Literature, 1300-1800:** This course is a study of selected works of British writers before 1800, with emphasis on Chaucer, Shakespeare, and Milton. Upon completion of this course, students should be familiar with selected works of the writers of the period, have an awareness of the development of the English language and of literary trends during the period, and be able to analyze the literature read in terms of form and content.
*Prerequisite: ENG 1505 or consent of Department Head (5-0) 5

***ENG 2505 British Literature, 1800-Present:** This course is a study of selected works of British writers since 1800, including Wordsworth, Coleridge, Byron, Shelley, Keats, Browning, Tennyson, Eliot, Conrad, Shaw, Hardy, and Yeats. Upon completion, students should be familiar with selected works of the writers studied; be able to characterize Romantic, Victorian, and modern British literature; and be able to analyze the literature read in terms of form and content.
*Prerequisite: ENG 1505 or consent of Department Head (5-0) 5

***ENG 2510 World Literature to 1700:** This course is a study of selected literature of various cultures from ancient times through the 17th century. Through the study of works by the Greek playwrights, Homer, Vergil, Dante, Chaucer, Shakespeare, and others, students will gain a broadened perspective of the types of writing that constitute literature; will be able to discuss and analyze these literary works; and will understand the relationship between cultures and the literature they produce.
*Prerequisite: ENG 1505 or consent of Department Head (5-0) 5

***ENG 2511 World Literature, 1700 to Present:** This course is a study of selected literature from the 18th century to the present. Through the study of works by Voltaire, Flaubert, Tolstoy, Pirandello, Proust, Mann, Achebe, and others, students will gain familiarity with a variety of genres and styles of writing; will be able to discuss and analyze these literary works; and will understand the relationship between cultures and the literature they produce.
*Prerequisite: ENG 1505 or consent of Department Head (5-0) 5

***ENG 2514 American Literature, 1800-1900:** This course is a study of selected works of American writers between 1800 and 1900, with emphasis on Poe, Hawthorne, Melville, Emerson, Thoreau, Whitman, Twain, Stowe, Douglass, and Dickinson. Upon completion, students should have a knowledge of the lives and representative works of the writers studied; have a knowledge of how each writer reflects certain trends of society; be able to identify literary devices and techniques used by the writers; and show greater competence in interpreting, analyzing, and evaluating literature, as well as in discerning meanings and ideas in literature.
*Prerequisite: ENG 1505 or consent of Department Head (5-0) 5

***ENG 2515 American Literature, Modern:** This course is a study of selected works of major American writers, including Crane, Robinson, Frost, O'Neill, Anderson, Dreiser, Hemingway, Wolfe, Faulkner, Fitzgerald, Bellow, Miller, and Albee with emphasis on their interpretations of the modern era. Upon completion, students should have a knowledge of the representative works of the writers studied; have a knowledge of how each writer reflects certain trends of society; be able to identify literary devices and techniques used by the writers; be able to show greater competence in inter-

preting, analyzing, and evaluating literature, as well as in discerning meanings and ideas in literature.
*Prerequisite: ENG 1505 or consent of Department Head (5-0) 5

***ENG 3405 Technical English II:** Upon completion of this course, students should be able to prepare various types of business communications including resumes, letters, and memoranda. They should also be able to use multiple resources and research techniques to prepare formal reports such as feasibility studies and proposals related to their chosen programs. This course also requires the production of informal reports and other related communications including definitions, descriptions of mechanisms, processes and instructions, progress reports, graphic aids, and abstracts.
*Prerequisite: ENG 1504 or consent of Department Head (4-0) 4

ENG 3515 Essentials of Grammar: Upon completion of this course, students should be able to identify constructions, forms, and usages of words and the relationship of words within a sentence. They should also be able to compose sentences according to given structural patterns and to apply basic rules of grammar. (5-0) 5

***ENG 4324 Advertising Copywriting:** Students will learn basic copywriting for effective print and broadcast advertising. They will also learn about the ethical and regulatory environment of advertising. Working in groups, they will produce an advertising plan to be used as the basis for print and broadcast ads. They will present both their plan and their ads orally, as well as in written form.
*Prerequisite: ENG 1504 or consent of Department Head (3-0) 3

ENG 5500 Communications Skills: Upon completion of this course, students should be able to spell and define words directly related to their technical or trade areas, write job-related letters and a personal resume, discuss a given topic both orally and in writing, demonstrate familiarity with periodicals in their trade fields. (5-0) 5

ENG 9500, ENG 9505, ENG 9510: See page 46.

ESL – English as a Second Language
(Also see page 47 - 49.)

ESL 1600 English for Internationals I: This course is designed to prepare advanced non-native speakers of English for the kinds of writing required in college classes. Upon completion of this course, students should be able to produce college level writing in various organizational formats. Students should also be able to edit their compositions for grammatical correctness in areas such as verb tenses, subject-verb agreement, advanced models, stative passives, article usage, relative clauses, relative adverbials, adverbial clauses, and word order.
*Prerequisite: ESL 9516 and ESL 9548, placement test, or consent of Department Head (5-2) 6

ESL 1601 English for Internationals II: This course is designed for advanced non-native speakers of English. Upon completion, students should be able to understand lectures on academic subjects; to differentiate between main points, supporting information, and extraneous information; and to take down this information in organized notes. Students should also be able to use knowledge of organization style and analysis of writing purpose to comprehend college level texts, focusing on establishing function, identifying main ideas, understanding inferences, and locating factual information.
*Prerequisites: ESL 9509 and ESL 9412, placement test, or consent of Department Head (5-2) 6

FAS – Fashion Merchandising and Marketing

FAS 3300 Introduction to Fashion Merchandising: Upon completion of this course, students should be able to understand the nature of the business enterprise; and the industrial practices involved in the design, production, retailing, and consumption of fashion products, with emphasis on marketing/merchandising activities and interrelationships. (3-0) 3

FAS 3210 Fashion Show Production: Upon completion of this course, students should be able to recognize the different objectives of different types of fashion shows and activity. The course culminates in an actual show planned and implemented by the students. (1-2) 2

FAS 3310 Retail Advertising and Promotion: Upon completion of this course, students should be able to recognize various advertising and promotional activities specific to retailers, including publicity and specialty advertising as part of overall fashion marketing strategies and budgets. (3-0) 3

FAS 3320 Psychology of Fashion: Upon completion of this course, students should be able to understand the interrelationship between fashion and its cultural, social, psychological, economic, and aesthetic implications. (3-0) 3

FAS 4220 New York Field Study: Upon completion of this course, students will be able to explain the operation of the fashion industry after attending seminars, workshops and field trips to various apparel manufacturers. A written report will be required upon completion of the New York experience. (2-0) 2

FIN – Finance

FIN 3303 Personal Investing: Upon completion of this introductory course in investments, students should be able to plan investments and describe the process of investing; analyze returns on investments using financial ratios; discuss securities markets and regulation of securities markets; understand terminology and terms pertinent to stocks, bonds, and other securities; and discuss various investments such as securities, insurance plans, real estate, mutual funds, and tax-sheltered annuities. (3-0) 3

FIN 3314 Business Mathematics I: Upon completion of this course, students should be able to add, subtract, multiply, and divide whole numbers, fractions, and decimals. In addition, students should be able to use these operations to solve equations and percent problems, as well as problems related to checking accounts, banking services, payroll, sales and property taxes, and various types of insurance. (3-0) 3

***FIN 3315 Business Mathematics II:** Upon completion of this continuing study of business mathematics, students should be able to apply the basic arithmetical functions to the following business situations: retailing (cash and trade discounts, markup and markdown); financing (simple and compound amounts, installment credit and annuities); investing (stocks with distribution of dividends and bonds); and evaluating (basic statistics).
*Prerequisite: FIN 3314 (3-0) 3

FIN 3330 Real Estate Arithmetic: Upon completion of this course, students should be able to apply basic arithmetical processes to solve problems in real estate, including the following: geometric diagrams, commissions, profits and losses, appreciation and depreciation, interest, financial packages, taxes, insurance, capitalization and investments. (3-0) 3

***FIN 4300 Analyzing Financial Statements—AIB:** This is a specialized course designed for students enrolled in the AIB/Banking and Finance Programs. Upon completion of this course, students should be able to describe how a company's type of business, legal structure, size and management strategies affect the way a lender conducts a financial analysis; describe financial analysis; prepare financial statements; apply various techniques of analysis to determine a firm's financial position; and interpret its results.
*Prerequisite: ACC 1604, ACC 5404 or AIB 7417 (3-0) 3

***FIN 4317 Financial Statement Analysis:** This course is a study of the fundamentals of the major financial statements used in accounting with particular emphasis on the balance sheet and income statement. Upon completion of the course, students should be able to apply various techniques of analysis to determine a firm's financial position and to interpret its operating results.
*Prerequisite: ACC 1604 (3-0) 3

***FIN 4334 Business Finance I:** Upon completion of this course, students should be able to explain the basic forms of business organization; compute a corporation's tax liability; compute and interpret financial ratios; prepare a cash budget; compute various break-even points and degrees of leverage, and apply concepts of break-even analysis and leverage; compute cost of capital for debt and equity; apply present value concepts to evaluate various investment alternatives; and employ capital budgeting techniques to evaluate long-term investment projects.
*Prerequisite: ACC 1604 (3-0) 3

***FIN 4335 Business Finance II:** Upon completion of this continuing study of business finance, students should be able to explain the financing of corporations and other business entities; explain and evaluate a firm's capital structure; explain the various strategies of working capital management; evaluate changes in receivables and inventory management policies; explain the advantages of leasing, and evaluate lease-purchase alternatives; compute the cost or savings of a bond refunding; and explain various corporate dividend policies.
*Prerequisite: FIN 4334 (3-0) 3

***FIN 4336 Financial Management:** This course covers finance functions relating to buying, operating, and selling a business. Emphasis is placed on problem-solving and the development of analytical skills rather than on theory. Upon completion of this course, students should be able to solve problems related to valuation, financial analysis, capital budgeting, working capital management, inventory management, and management of other business assets.
*Prerequisite: FIN 4335 (3-0) 3

FIN 4350 Personal Financial Management: This consumer-oriented course will enable students to become better consumers and managers of their own financial situation. Upon completion of this course, students should have a basic understanding of consumer laws, protection and remedies; family budgeting and financial planning; and uses of credit and its potential problems. Awareness of consumer rights and responsibilities on the part of each student is emphasized throughout the course. (3-0) 3

FIP – Fire Protection

FIP 3200 Fire Protection for Hospitality Education: Upon completion of this course, students should be able to define fire triangle, flash point, ignition temperature, heat production and heat transfer; describe the operating principles, care, and inspection processes of fixed extinguishing systems used in modern kitchens; describe the fire codes and fire prevention codes applicable to the Hotel/Motel Industry; and correctly extinguish a small pit fire using a hand-held fire extinguisher. This course is for Hospitality Program students only. (2-0-0) 2

FIP 3301 Fire Prevention Programs and Public Relations: Upon completion of this lecture based course involving critical thinking, interpersonal dynamics and inspection design, students should be able to list and discuss the principles and applications of fire prevention related to the community and industrial plants; discuss the development and maintenance of fire prevention programs, educational programs, and inspection programs; and apply related disciplines to fire prevention problems. (2-2-0) 3

FIP 3303 Fire Protection I: Upon completion of this course, students should be able to list and describe the goals of the Williamsburg Conference, evaluate current trends and loss patterns using current statistics, describe the fire characteristics and hazards of flammable and combustible materials, and describe the role of federal-related agencies. (3-0-0) 3

FIP 3309 Leadership and Team Building: Upon completion of this course, students should be able to identify the principles of group development that promote team work; identify beneficial and harmful group behavior; and identify methods of communicating common goals through oral, written, verbal and non-verbal communication. (3-0-0) 3

FIP 3401 Plant Emergency Operations: Upon completion of this course, students should be able to define, in relation to the industrial facility, the regulatory requirements as imposed by OSHA, insurance carriers, and other regulatory agencies; develop a plan of interfacing with outside assisting emergency organizations; develop a procedure for organizing, staffing, and training a plant emergency brigade. (3-2-0) 4

***FIP 3404 Chemistry of Flammable Materials:** Upon completion of this course, students should be able to list and describe theories of combustion and extinguishment; analyze flammable materials and describe the nature of extinguishing agents; list the properties of matter affecting fire behavior;

discuss the use, storage, and disposal of flammable solids, liquids, gases, and dust, using the laws and principles of chemistry and physics as a basis for discussion.
*Prerequisite: CHM 1500 (3-2-0) 4

***FIP 3405 Flame Propagation and Material Rating:** Upon completion of this course, students should be able to explain the three basic elements which determine the fire hazards of a building; define the different types of interior finish excluding trim and incidental finishes; calculate the flame spread behavior of floor covering systems including cellulosic materials, carpet materials, and certain floor tiles.
Note: Students must have Student Accident Insurance.
*Prerequisite: Student Accident Insurance (2-4-0) 4

FIP 3406 Arson Investigation I: Upon completion of this course, students should be able to compare and contrast the facts, truths, trends, and statistics pertaining to loss of life and property from accidental and incendiary fires; identify the effects of fire and its behavior, including the factors which influence the spread of fires, such as weather, heat transformed, and spontaneous heating; categorize, list, and document the fire scene and submit evidence for scientific examination. (3-2-0) 4

***FIP 3408 Arson Investigation II:** Upon completion of this course, students should be able to examine a fire area to determine point of origin, describe the legal ramifications of preserving the fire scene and protecting the corpus delecti, and describe how to present testimony in the manner expected of an expert witness.
*Prerequisite: FIP 3406 (3-2-0) 4

FIP 4304 Fire Protection Law: Upon completion of this course, students should be able to list and discuss pertinent laws and ordinances, codes of fire protection, and the responsibilities and powers of individuals or organizations concerning enforcement; discuss liability of fire protection personnel when making inspection, recommendations, fighting fires, and other tasks; and discuss specific court cases including tort, terms, and contracts. (3-0-0) 3

***FIP 4309 Incident Management Systems**: Upon completion of this course, students should be able to list the elements of an effective emergency management system, apply the ICS to various emergency incident scenarios, and demonstrate the ability to use the major functions of the ICS through structured small group activities and the Fire Ground Simulator.
*Prerequisite: FIP 4409 (3-0-0) 3

***FIP 4403 Hydraulics for Fire Protection:** Upon completion of this course, students should be able to describe the flow of fluids through fire hoses, nozzles, appliances, and measure fluid flow accurately using appropriate methods of determining quantities of water available through fire systems.
*Prerequisite: MAT 3325 (3-2-0) 4

***FIP 4404 Water Distribution Systems:** Upon completion of this course, students should be able to identify and describe sources of water, water storage, measurement of fluid flow, and methods of determining quantities of water available from a distribution system.
*Prerequisite: MAT 3325 (3-2-0) 4

FIP 4405 Sprinkler and Standpipe Systems: Upon completion of this course, students should be able to identify and describe the various types of sprinkler and standpipe systems and be able to list and discuss system devices and their operations including advantage of sprinkler systems, codes governing installation, water supply requirements, testing, inspection, and maintenance. (3-2-0) 4

FIP 4409 Fire Department Tactics and Strategy: Upon completion of this course, students should be able to list the eight components of leadership and explain the transition to become an effective officer; list and explain the critical fire behavior factors that relate to tactical operations for an assigned fire scenario; and, given a structural fire scenario, demonstrate the ability to develop a strategy using the command sequence. (3-2-0) 4

***FIP 4414 Inspection Principles and Building Codes:** Upon completion of this course, students should be able to list fundamentals of fire inspection, including standards, techniques of evaluation of hazards by degrees, and practical recommendations, and be able to inspect buildings and write reports on each building, including maps and sketches of each building, location of hazards, and recommendations for safe practices and improvements.
*Prerequisite: FIP 3301 (3-0-3) 4

FIP 4423 Portable and Fixed Extinguishing Systems: Upon completion of this course, students should be able to list and describe the various types of portable and fixed extinguishing systems, their operation, application, installation, and maintenance, and be able to demonstrate skill in operating portable and fixed extinguishing systems. (3-2-0) 4

FIP 4424 Automatic Alarm Systems: Upon completion of this course, students should be able to list and describe the types of standard and special fire alarm and fire detection systems, including discussion of their operations, installation, requirements, testing, inspections, and maintenance. (3-2-0) 4

***FIP 4434 Chemical and Radiation Hazards:** Upon completion of this course, students should be able to list and describe the hazards encountered in chemical and petroleum industries; list and describe radiation hazards, effects of radiation on humans, exposure control, radiological instruments, operational and decontamination procedures; list and describe common uses of radioactive materials, their transportation and storage; and demonstrate skills of chemical and radioactive inspections.
*Prerequisite: FIP 3404 (3-2-0) 4

FIP 4444 Fire Fighting Strategy: Upon completion of this course, students should be able to list and describe tactics and strategies in extinguishing fires; list and describe pre-fire plans, fire flow calculations, techniques of using available equipment and manpower, conflagrations, techniques of predicting fires and fuel analysis; demonstrate appropriate response to simulated crises. (3-2-0) 4

FIP 4454 Building Construction: Upon completion of this course, students should be able to list and discuss building codes applicable to fire prevention, and be able to list and describe the principles and practices used in various types of building construction. (3-2-0) 4

***FIP 4464 Hazardous Material Analysis and Emergency Planning**: Upon completion of this course, involving problem solving and critical thinking, students should be able to describe the various hazard survey principles and techniques for detecting the presence of hazardous materials in industrial/commercial occupancies; demonstrate the use of reference resources and identification systems for hazardous

materials properties; and develop a pre-plan from on-site visits of an oil/gasoline tank farm, railroad terminal yard, LPG tank storage farm, and a chemical plant.
*Prerequisite: FIP 4434 (2-4-0) 4

FIP 4500 Fire Service Instructional Methodology: In this lecture based course, students will learn the knowledge and skills necessary to plan, design, present and evaluate a basic level of effective instruction to practitioners and will demonstrate this in a variety of classroom settings. Students completing this course will meet the National Fire Protection Association's NFPA 1041 Standard for Fire Service Instructor level II for state of North Carolina. (5-0-0) 5

FIP 4509 Fire Department Management: Upon completion of this course, students should be able to list and describe the responsibilities and duties associated with first level chief officers; describe city budgeting and purchasing processes as it relates to fire Department operations; discuss proactive fire protection delivery methods, station locations, design and construction; and describe inter-agency relations and fire Department media responsibility. (5-0-0) 5

***FIP 4510 Hydraulic Design of Sprinkler Systems:** Upon completion of this course, students should be able to define all the design inputs necessary to perform the hydraulic calculations as defined in Chapter 7 of the latest edition of NFPA 13; describe the significance of a hydraulic reference point; prepare a typical input file for a computer aided sprinkler design analysis program; and design an automatic sprinkler system in accordance with Chapter 7, NFPA 13, given the preliminary pipe geometry, available water supply data, and the NFPA 13 occupancy classification.
*Prerequisite: MAT 3325, FIP 4405 (4-2-0) 5

FRE – French

FRE 1600 Elementary French I: Upon completion of this course, students will have a knowledge of some basic elements of French in conversation, reading, and writing. Tapes, tutorials, and computer software are used in laboratory instruction. (5-2) 6

***FRE 1601 Elementary French II:** This course is a continuation of FRE 1600. Students will learn basic elements of conversation, reading, and writing. Tapes, tutorials, and computer software are used in laboratory instruction.
*Prerequisite: FRE 1600 within previous two quarters or consent of Department Head (5-2) 6

***FRE 2320 Special Topics:** This is an advanced course in which students and the instructor select topics for independent study. Class meets for oral reports and discussion.
*Prerequisite: FRE 2600 within previous two quarters or consent of Department Head (3-0) 3

***FRE 2600 Intermediate French I:** Upon completion of this course, students will have had an intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures with emphasis on conversation. Tapes, tutorials, and computer software are used in laboratory instruction.
*Prerequisite: FRE 1601 within two previous quarters, two high school units, or consent of Department Head (5-2) 6

***FRE 2601 Intermediate French II:** Upon completion of this course, students will have completed their review of grammar, along with readings in French, with emphasis on people and events that have determined the destiny of France. Tapes, tutorials, and computer software are used in laboratory instruction.
*Prerequisite: FRE 2600 within previous two quarters or consent of Department Head (5-2) 6

FSO – Foodservice

FSO 3301 Nutrition: This course is designed to provide students with basic facts about foods and nutrition and to aid them in developing the ability to sort out and apply new developments in this field to food preparation. Upon completion of this course, students should be able to explain the relationship of food to health and physical fitness, discuss food nutrients and their functions in the body, describe how the body utilizes food, explain the process of getting food from the producers to the consumers, and discuss the essentials of an adequate diet to maintain health. (3-0) 3

FSO 3504 Food Preparation I: Students will be introduced to the basic food preparation principles and procedures. They will prepare items in the kitchen, serve in a dining room, and work in the clean-up and stock areas of a restaurant. The class will be a combination of lab time and lecture time. (2-9) 5

***FSO 3505 Food Preparation II:** This course is designed to be a continuation in improving students' cooking skills and knowledge, building on what was learned in FSO 3504. They will rotate through various stations in the dining room and kitchen, preparing and serving food. The lab and lecture will be heightened by a field trip and guest lectures.
*Prerequisite: FSO 3504 (2-9) 5

***FSO 3506 Food Preparation III:** In this course, students will begin to apply the knowledge gained in FSO 3505 to more advanced preparation techniques, the handling of specialty items (veal & lamb), and preparations of full buffets. They will also be introduced to menu development and writing , as well as to buffet layout and service. In this course, students should begin to feel the confidence that comes with a growing understanding of food preparation.
*Prerequisite: FSO 3505 (2-9) 5

FSO 4200 Equipment Usage, Layout, and Design: Upon completion of this course, students will be able to identify, operate, and clean commercial equipment; identify small and large hand tools and equipment; and identify and design basic layout and flow charts for effective kitchen use. (2-0) 2

FSO 4208 Cooperative Education: This course is designed to aid students in applying the skills necessary for success in the foodservice industry by providing actual supervised work experience in the food industry under the guidance of an Executive Chef. Upon completion of this course, students should be able to perform successfully the objectives outlined in the training plan, including such skills as operating fry, broiler, and saute stations; setting up a salad station; preparing salads; performing bakery shop operations; evaluating their own performance in the field; assessing requirements and responsibilities for successful employment and evaluating their own capacity to comply with such demands. (0-20) 2

FSO 4300 Sanitation: Upon completion of this course, students should be able to understand and apply information and methods concerning sanitation procedures in food handling from purchasing and storing to preparing and serving to patrons; and should be able to maintain a sanitary operation, train workers in sanitary food handling and deal with the local health department. (3-0) 3

FSO 4303 Food Purchasing: Upon completion of this course, students should be able to describe the food purchasing function, define the role of food purchasing in food production, describe the importance of planning and forecasting, demonstrate market techniques, recognize the importance of specifications and quality assurance, describe yield tests and cost analysis used to manage food costs and establish menu prices, explain food distribution systems and market trends, discuss purchasing relationship to other foodservice activities, know the accounting controls and mechanics, discuss ethics within the food purchasing function, and explain the need for evaluating purchasing performance. (3-0) 3

FSO 4304 Food and Labor Cost Controls: This course concerns food costs and skills necessary for setting food cost objectives. Upon completion of this course, students should be able to define food costs, perform skills necessary for setting food cost objectives, explain the value of establishing standard portions, demonstrate knowledge of purchasing methods, discuss the importance of a weekly inventory, explain the importance of Food Issuing forms, and explain the value of comparative buying. (3-0) 3

FSO 4407 Baking I: Upon completion of this course, students should be able to demonstrate the use of correct measurements and proper use of various baking tools and equipment; understand primary baking ingredients and their properties; prepare base yeast doughs, quick breads, basic pastry doughs, basic fruit and cream fillings, basic cookie doughs; and understand principles of sanitation, safety, and inventory control. (2-6) 4

***FSO 4408 Baking II:** Students will continue to apply the basics learned in FSO 4407. Upon completion of this course, they should be able to prepare various cakes, basic syrups, creams, icings, and sauces.
*Prerequisite: FSO 4407 (2-6) 4

***FSO 4409 Baking III:** Upon completion of this course, students should be able to prepare danish and puff pastries, specialty rolls, breads, and pastries; prepare more complex sweet doughs, pies and tarts, and specialty cookies; and demonstrate the use of large and small pastry bag.
*Prerequisite: FSO 4408 (2-6) 4

FSO 4414 Garde Manger I: This course is designed as an introduction to cold preparation techniques (i.e. salads, hors d'oeuvres, appetizers). Students will begin to study the basics of garnishing food and the need for creativity. The discussion periods will include films and guest lecturers. (2-6) 4

***FSO 4415 Garde Manger II:** Students will continue to apply the basics learned in FSO 4414. They will prepare various salads, dressings, spices, etc. for service in the dining room as well as gaining experience in stockroom, scully, and supervision. An introduction to ice and tallow carving will also be part of this course.
*Prerequisite: FSO 4414 (2-6) 4

***FSO 4416 Garde Manger III:** Upon completion of this course, students should be able to recognize and prepare different types of Chaud Froid sauce, create a classic Chaud Froid showpiece, plan and prepare a buffet with a showpiece, demonstrate skills necessary for creating special garnishes, compose a menu to fit an establishment's specific needs, demonstrate the better techniques used in ice carvings, and display a knowledge of Pates.
*Prerequisite: FSO 4415 (2-6) 4

***FSO 4419 Baking IV:** Upon completion of this course, students should be able to make and work with marzipan; prepare royal buttercream and boiled icings; make and work with pastillage; know and demonstrate use of appropriate decorator tubes; make flowers and borders; make and decorate birthday, wedding, and specialty cakes; and work with chocolate coverture.
*Prerequisite: FSO 4409 (2-6) 4

***FSO 4506 Food Preparation IV:** This course is designed to fine tune students' food preparation skills. They will be involved in the preparation of game. They will be introduced to a variety of types of cuisine. Students will gain a solid knowledge of hot food preparation.
*Prerequisite: FSO 3506 (2-9) 5

GED – General Educational Development

See page 49.

GEL – Geology

GEL 1604 Physical Geology: This is an introductory course with emphasis on geology as an environmental discipline. Upon completion of this course, students should be able to demonstrate knowledge in the following areas: common minerals and rocks, earth processes, development of surface features, and geologic resources. (5-2) 6

GEL 2605 Historical Geology: This is a course on the sequence of earth's history. Upon completion of this course, students should be able to demonstrate knowledge in these areas: recognition of major fossils and associated rock strata, appreciation of the age of many geological formations, and how historical geology aids in finding natural resources. (5-2) 6

GEN – General Studies

GEN 1140 Field Biology: This course is specifically designed for the general interest student. Upon completion of the course, students should be able to write a description, using field notes, of the major flora and fauna of the specific field location being studied. (6-10) 1

GEN 1141 Introduction to Nature Photography: An introduction to the basic principles of nature photography with emphasis on various types of cameras, lenses, and films, indicating the limitations of each. Also, an introduction to the techniques of photography from blinds, and tips on how to photograph anything from wild flowers to birds. (6-10) 1

GEN 1144 Ecology by Canoe: A course of general interest designed to meet the needs of the general interest student. The course is made up of 3 all-day (7-1/3 hours) field trips by

canoe. Students will learn about the flora and fauna of three different geographical regions and streams of North Carolina: i.e., Coastal Plain, Piedmont, and Mountain. Little or no canoeing experience is necessary—flatwater streams are selected. Students will provide their own transportation to and from field locations. (0-22) 1

GEN 1148 Field Identification of Insects: An introduction to insect identification using taxonomic keys down to the major orders of insects. Characteristics of insects will be compared to other arthropods and other animal phyla. Also, the importance of insects to humanity and the environment will be stressed along with control methods. (6-10) 1

GEN 1149 Field Ornithology: An introduction to the identification and study of birds in the field. Upon satisfactory completion of this course, students should be able to identify several kinds of birds on sight and demonstrate knowledge of special adaptations, kinds of food, and life histories of selected species. (6-10) 1

GEN 1201 Career Exploration: This course will help students discover their own unique gifts and talents related to the area of career planning, to recognize where they are now, to discover where they want to go, to determine how to get there, and to be able to plan for career alternatives. (2-0) 2

GEN 1290 Service-Learning and Contemporary Issues: Upon successful completion of this course, students should be able to utilize library facilities; research, develop and write an annotated bibliography on a current social concern; articulate an understanding of service-learning/volunteerism and social responsibility and change; exercise critical thinking skills related to problems of contemporary society; and communicate ideas and experiences effectively through oral and written assignments. (2-0) 2

GEN 1291 Service-Learning Leadership: Upon successful completion of this course, students should be able to articulate an understanding of service-learning/volunteerism and its relationship to leadership and career development; list and define the role of leadership in service agencies and organizations; apply problem solving, conflict management and critical thinking skills as related to leadership; demonstrate the ability to apply knowledge and skills of leadership; define and relate basic theories of management by objectives and total quality management to the organizational structure of service agencies; communicate ideas and experiences effectively through oral and written assignments. (2-0) 2

GEN 1370 Introduction to College Life: Upon successful completion of this course, students should increase their knowledge of the factors that enhance success at college; they will improve their abilities to manage their college careers by improving their abilities to study, test and communicate effectively. Students will learn to manage their time and their financial resources and will learn about the resources Central Piedmont provides to support their academic, personal, and career success. They will enhance their emotional and mental health by learning to cope with conflict, change and stress and will enhance their abilities to work with classmates, instructors and other college personnel. (3-0) 3

GEO – Geography, Physical

GEO 1614 Introduction to Physical Geography: This is a study of the basic physical elements of geography aimed at understanding the physical environment. Upon completion of this course, students should be able to demonstrate a basic understanding of the earth's geographic grid system, earth-sun relations, basic concepts of cartography, meteorology, hydrology, climatology, and biogeography. (5-2) 6

GER – German

GER 1600 Elementary German I: This course emphasizes basic elements of German in conversation, reading, and writing for beginning students, with laboratory tapes, videos, and computer software to reinforce classroom instruction. (5-2) 6

***GER 1601 Elementary German II:** This course is a continuation of GER 1600. Students will learn basic elements of conversation, reading, and writing.
*Prerequisite: GER 1600 within previous two quarters or consent of Department Head (5-2) 6

***GER 2600 Intermediate German I:** Upon completion of this course, students will have knowledge of basic grammatical elements of the German language. Emphasis is placed upon conversation, reading and writing. Laboratory tapes, videos, and computer software are used to reinforce classroom instruction.
*Prerequisite: GER 1601 or two high school units within previous two quarters, or consent of Department Head (5-2) 6

***GER 2601 Intermediate German II:** This course provides an intensive review of basic grammar and vocabulary. Reading of selections from German literature are combined with oral and written work.
*Prerequisite: GER 2600 within previous two quarters or consent of Department Head (5-2) 6

GPY – Geography

GPY 1500 Introduction to World Geography: This course is an introduction to the study of regional geography, focusing on the spatial association of people and the environment. Upon completion of the course, students should be able to describe variations in climate, landforms, natural vegetation, mineral resources, economies, settlement patterns, demography, languages, religions, and political systems; demonstrate an understanding of the functional relationships between the physical and cultural features of a region; and describe the major world regions in terms of their physical and cultural characteristics. (5-0) 5

Graphic Arts, Printing – See PRN

Health,Physical Education and Recreation – See HPE

HED – Health Education

HED 1111 Special Health Problems: Selected health problems are chosen for study. Students are presented a subject area and should be able to identify and describe possible solutions to these problems. (1-0) 1

***HED 1153 CPR Instructor:** Upon completion of this course, students should be able to prepare lesson plans for teaching cardiopulmonary resuscitation and present these plans in class, demonstrate effective methods and techniques of CPR, administer specific tests of basic CPR skills.
*Prerequisite: HED 1203 or equivalent (1-0) 1

HED 1201 Special Health Problems: Selected health problems are chosen for study in this course. Students are presented a subject area and should be able to identify and describe possible solutions to these problems. (2-0) 2

HED 1203 Cardiopulmonary Resuscitation (CPR): Students are instructed in CPR procedures. Upon completion of this course, students should be able to perform emergency procedures when cardiac arrest occurs; dislodge a foreign object from airway; and be able to demonstrate proper techniques for adult, child and infant CPR. (2-0) 2

HED 1204 First Aid Responding to Emergencies: Upon completion of this course, students should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained. The student will practice performing care for soft tissue and musculoskeletal injuries, sudden illness, poisoning and substance abuse, and CPR. (1-2) 2

HED 1208 Personal Fitness Analysis: Upon completion of this course, students should be able to assess their health and fitness status by the use of laboratory tests such as calculating body fat, determining aerobic fitness and flexibility, and be able to identify the roles of exercise, diet, stress and physical activity for total well-being. Students participate in an exercise program to improve their fitness level. (1-2) 2

HED 1300 Introduction to Health Education: Upon completion of this course, students should be able to define the basic concepts of health and relate these to everyday life, evaluate health information, and identify current health issues and health problems world wide; identify health education programs and ways to prevent illness; analyze and describe solutions to environmental health issues in local and international areas; identify local and world wide health agencies and resources; discuss future health issues. (3-0) 3

HED 1301 Special Health Problems: Selected health problems are chosen for study in this course. Students are presented a subject area and should be able to identify and describe solutions to these problems. (3-0) 3

HED 1302 Sexual Development of Children: Upon completion of this course, students should be able to describe typical and atypical sexual behaviors of children, discuss helpful adult responses to specific behaviors and questions, identify issues relating to children's sexuality, describe and understand relationships between adult values and behaviors, and promote healthy sexual development in children. (3-0) 3

HED 2301 Human Sexuality: Upon completion of this course, students should be able to define the concepts of sexuality, develop a basic knowledge of male/female anatomy/physiology and sexual response, describe the reproductive process, identify various STD's, describe contraceptive methods, identify various health agencies with a sexuality component, examine communication between partners, identify methods in sexual research. (3-0) 3

High School Diploma – HSD
See page 45.

HIS – History

HIS 1500 World Civilization I: This course is a study of the development of civilization from the prehistoric period to the seventeenth century. Upon completing this course, students should be able to analyze significant events and identify patterns in early political, socio-economic, religious, intellectual, and artistic developments in Europe, Asia, and Africa, identifying relationships between past events and relating these to contemporary problems. (5-0) 5

HIS 1501 World Civilization II: This course is a study of the development of civilization from the seventeenth century to the present. Upon completing this course, students should be able to analyze significant events and identify patterns in recent political, socio-economic, religious, intellectual, and artistic developments in Europe, Asia, Africa, and the Americas, thus giving context for understanding the present world order. (5-0) 5

HIS 1502 American History I: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in America from the Colonial Era through Reconstruction. (5-0) 5

HIS 1503 American History II: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in American history from the end of Reconstruction to the present.(5-0) 5

HIS 1504 Recent American History: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in America from 1941 to the present. (5-0) 5

HIS 1505 The Modern World: This course involves a study of outstanding recent developments in the United States and the world and the historical background of these developments. Upon completion of this course, students should be able to explain the interdependence among the world community of nations; examine the contrasting political, social, and economic systems represented in the world community of nations; discuss the impact of technology on people, their institutions, and their values; discuss the conflicting value systems within contemporary American society and within the world community of nations; examine their own value systems; examine recent developments in the United States, and analyze and draw logical inferences from a variety of primary and secondary source material relating to selected contemporary events, issues, and policies. (5-0) 5

HIS 1510 The American Civil War: Upon completion of this course, students should be able to explain why the Civil War was a turning point in this nation's history; describe

why the years from 1861 to 1865 form an important episode in America's history ; explain why, before 1860, the Southern economy was bound to the institution of slavery; describe how the divergent economic structures of the North and South would cause conflict; explain the frame of reference of the North and South in terms of ideology. (5-0) 5

HIS 1520 African American History I: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments of African-Americans from their ancient African past (ca. 3000 B.C.) through the American Civil War (1865); they should also be able to analyze and evaluate the philosophies of major African-American leaders from the era of Colonial America to the era of the Civil War. (5-0) 5

HIS 1521 African American II: Upon completion of this course, students should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments of African-Americans from 1865 to the present; they should also be able to analyze and evaluate the philosophies of major African-American leaders during this period. (5-0) 5

***HIS 2104-2504 Special Topics in History:** This designation allows students individually or in groups to investigate in greater detail special topics of particular interest not covered in regular classroom offerings. The specific objectives will vary with each course.
*Prerequisite: Consent of instructor and Department Head
(1 to 5 hrs. class/weekly -1 to 5 hrs. credit)

HIS 2500 North Carolina History: Upon completion of this course, students should be able to examine the major historical, geographical, and governmental developments in North Carolina from the Colonial Era to the present. Through outside readings and special projects, they will evaluate the cultural developments and socio-economic contributions of the State. (5-0) 5

HLT - Health

HLT 3300 Infection Control: This course is designed to provide students with necessary infection control procedures. Upon completion of this course, students should be able to describe, recognize, and identify infectious diseases, disease transmission, aspetic techniques, infection control procedures, universal precautions, task categories, biohazard waste management, and OSHA guidelines. Emphasis is placed on microbiology, aseptic techniques, sterilization, disinfection, and implementation of infection control procedures. (3-0-0)3

HLT 5302 Professional Interactions and the Health: Upon completion of this course, students should be able to discuss skills needed to establish rapport between health worker and patient as well as co-worker; list the effects that behavior of the health worker may have on the well-being of the patient; and discuss the goal of the health care institution with relationship to the community, the health professional, and the patient. (3-0-0)3

HOR – Horticulture Technology

***HOR 3205 Cooperative Work Experience (Co-Op):** Upon completion of this course, students should be able to exhibit a positive attitude toward work in a horticultural business and apply experience to supplement class and lab.
*Prerequisite:Permission of Program Director and Co-Op Office (0-0-20) 2

HOR 3210 Floral Design: Upon completion of this course, students should be able to demonstrate basic care and handling of cut flowers, choose and utilize basic floral supplies, demonstrate the nine fundamental floral design lines, and demonstrate four basic types of design pieces. (1-2) 2

HOR 3302 Landscape Graphics and Measurements: Upon completion of this course, students should be able to execute measurements commonly used in landscaping, read working landscape plans and specifications, prepare basic working landscape plans and specifications, and reproduce landscape plans. (2-2) 3

***HOR 3304 Computer-Aided Landscape Graphics:** Upon completion of this course, students should be able to demonstrate proficiency in the use of commands and controls of a CAD system; produce a library of landscape symbols; and produce scale landscape drawings to include site layout, plant symbols, and appropriate lettering.
*Prerequisite: HOR 3302 or permission of Program Director (1-6) 3

HOR 3312 Indoor Plants: Upon completion of this course, students should be able to describe the characteristics to look for in foliage plants; discuss the importance of selected tools, supplies, and containers for proper foliage plant care; discuss the effects of environmental factors; identify selected foliage plants; and identify and give control measures for selected pest problems. (2-2) 3

HOR 3400 Landscape Plants I - Woody: Upon completion of this course, students should be able to identify by sight 90 selected plants; list the physical characteristics, cultural requirements, and landscape uses of these plants; and identify any special remarks regarding them. (3-2) 4

HOR 3401 Plant Propagation I: Upon completion of this course, students should be able to perform the following types of asexual propagation: layering, cuttings, grafting, budding, dividing; perform sexual (seed) propagation of ornamental plants; select, use, and maintain equipment and supplies used in plant propagation; and choose the correct propagation method for a variety of ornamental plants.(2-4) 4

HOR 3403 Nursery Technology: Upon completion of this course, students should be able to perform the day-to-day operations used to grow, maintain, and harvest both container and field-grown nursery stock; select, use, and maintain nursery equipment and supplies; discuss the various kinds of nurseries; discuss marketing of nursery products and services; and perform garden center operations. (2-4) 4

HOR 3404 Landscape Plants II - Woody and Herbaceous: Upon completion of this course, students should be able to identify by sight 120 selected plants; list the physical

characteristics, cultural requirements, and landscape use of these plants; and identify any special remarks regarding these plants. (3-2) 4

HOR 3405 Grounds Maintenance II: Upon completion of this course, students should be able to explain the purpose of and list sources of the major, minor, and trace nutrient elements; perform simple soil tests for nutrient content and pH; select and apply fertilizers correctly to selected ornamentals; and select, use, and maintain equipment and materials used in the above operations. (2-4) 4

HOR 3408 Introductory Horticulture: Upon completion of this course, students should be able to demonstrate knowledge of the branches of horticulture and their interrelationships; demonstrate basic knowledge in the following areas: plant selection and purchasing, propagation, turf, grounds maintenance, and landscaping; describe the various registrations and certifications needed in horticulture; and describe various career opportunities in horticulture and horticultural organizations and agencies. (3-2) 4

HOR 3410 Turf Management I: Upon completion of this course, students should be able to identify at least seven selected turf grasses, list the cultural requirements of each of the seven selected turf grasses, establish turf grasses by four different methods, maintain turf grass by being able to select and use turf equipment and supplies, and identify and control common turf pests. (2-4) 4

HOR 3460 Applied Integrated Pest Management: Upon completion of this course, students should be able to identify plant environmental requirements and pest problems, use resource materials to recommend corrective methods for environmental and plant pest problems, choose and practice methods of plant problem remediation and maintenance. (2-4) 4

HOR 3504 Grounds Maintenance I: Upon completion of this course, students should be able to identify and execute preventive and corrective controls of weed problems common to ornamentals; select and apply mulches for usual maintenance situations; identify and execute preventive and corrective controls of water problems in grounds maintenance; prune all plants on a selected list of ornamentals; and select, use, and maintain equipment items used in the above operations. (3-4) 5

***HOR 3505 Landscape Gardening:** Upon completion of this course, students should be able to analyze the landscape potential of a landscape project area; prepare detailed landscape plans, plant lists, and planting specifications; install a planting; perform basic landscape construction.
*Prerequisite: HOR 3302 (3-4) 5

***HOR 4203 Advanced Floral Design:** Upon completion of this course, students should be able to demonstrate skill in the processing of cut flowers and demonstrate skills in the following floral design areas: container setup and selection, holiday arrangements, advanced wedding arrangements, advanced funeral pieces, dried flower, silk and twig arrangements, mats, brooms and fruit arrangements, oriental and free form creative design pieces.
*Prerequisite: HOR 3210 or permission of instructor (1-2) 2

***HOR 4301 Horticulture Management and Sales:** Upon completion of this course, students should be able to discuss effective employee management styles and procedures, outline financial factors to consider as an employee/employer, demonstrate marketing and sales strategies related to selected horticultural industries, and utilize selected computer software appropriate to horticultural businesses.
*Prerequisite: HOR 3403 or HOR 4411 (3-0) 3

***HOR 4305 Landscape Plants III—Herbaceous:** Upon completion of this course, students should be able to identify selected herbaceous plant material in the following categories: perennials, ferns, herbs, bulbs, ornamental grasses and bamboos, aquatic and bog plants. Instruction will focus upon plant selection based on knowledge of plant growth characteristics and site requirements and design principles. Discussion will also include correct installation and propagation procedures as well as general maintenance guidelines.
*Prerequisite: HOR 3400 or HOR 3404 (2-2) 3

HOR 4400 Arboriculture: Upon completion of this course, students should be able to solve tree maintenance problems by integrating knowledge of tree environmental needs, mineral nutrition, soils, pest management and prevention, and pruning and they should know basic safety procedures for tree care and for equipment use. (2-4) 4

***HOR 4404 Plant Propagation II:** Upon completion of this course, students should be able to perform advanced asexual propagation techniques including types of cuttings, grafts and/or buds and aseptic cultures; perform advanced sexual propagation techniques including selected pollination, scarification, stratification; and complete a detailed propagation project as assigned by the instructor.
*Prerequisite: HOR 3401 (2-4) 4

***HOR 4405 Turf Management II:** Upon completion of this course, students should be able to install and maintain recreational turf (golf courses and sport fields) appropriate for our geographical area. Maintenance will include procedures of mowing, aeration, fertilization, identification of pest and weed problems, calculation and application of appropriate pesticides and herbicides. Students will design, install, and maintain irrigation systems. Students will operate equipment and tools that are associated with recreational turf maintenance.
*Prerequisite: HOR 3410 (2-4) 4

HOR 4411 Greenhouse Horticulture: Upon completion of this course, students should be able to demonstrate a working knowledge of greenhouse construction, materials, and equipment; discuss the physical and cultural needs of greenhouse plants; and demonstrate a working knowledge of the growing of flower, bedding plant, seasonal pot plant, and foliage plant crops. (2-4) 4

Hotel /Restaurant Management – See HRM

HPE – Health, Physical Education and Recreation

Note: Successfully completed HPE courses may not be repeated for a period of three years without Department Head approval.

Self-Supporting Courses: Credit will be given for successful completion of a self-supporting course. However, no additional credit will be given for repeating the same course.

HPE 1100 Individual Activity: Selected physical education topics are chosen for study. Upon completion of this course, students should be able to demonstrate skill in these topic areas. (Self-Supporting) (0-3) 1

HPE 1104 Fencing - Beginning: Upon completion of this course, students should be able to perform elementary foil technique and demonstrate the basic skills of fencing. (0-3) 1

***HPE 1105 Fencing - Intermediate:** Upon completion of this course, students should be able to perform foil techniques such as the balastra, the fleche, the croise, taking the blade, and competitive fencing.
*Prerequisite: HPE 1104 or equivalent (0-3) 1

***HPE 1106 Fencing - Advanced:** Upon completion of this course, students should be able to execute elementary sabre techniques such as the on-guard position, the lunge, various parries, and engage in advanced competitive fencing. (Self-Supporting)
*Prerequisite: HPE 1105 or equivalent (0-3) 1

HPE 1107 Self-Defense and Physical Conditioning - Beginning: This is the first in a series of three courses designed to teach self-defense and promote physical well-being through the skills and disciplines developed in the study of martial arts. Upon completion of this course, students should be able to demonstrate basic self-defense techniques and perform specific physical conditioning exercises. (0-3) 1

***HPE 1108 Self-Defense and Physical Conditioning - Intermediate:** This is the second in a series of three courses designed to teach self-defense and promote physical well-being through the skills and disciplines developed in the study of martial arts. Upon completion of this course, students should be able to demonstrate basic self-defense and intermediate level techniques, and continue specific physical conditioning exercises.
*Prerequisite: HPE 1107 or equivalent (0-3) 1

***HPE 1109 Self-Defense and Physical Conditioning - Advanced:** This is the third in a series of three courses designed to teach self-defense and promote physical well-being through the skills and disciplines developed in the study of martial arts. Upon completion of this course, students should be able to demonstrate advanced techniques of self-defense and a high level of physical conditioning.
*Prerequisite: HPE 1108 or equivalent (0-3) 1

HPE 1112 Water Aerobics: Upon completion of this course, students should be able to demonstrate increased cardiovascular endurance, muscular strength and flexibility, and should be able to participate in an individually-paced water exercise program. Students provide their own swimsuits. (0-3) 1

HPE 1113 Volleyball and Badminton: Upon completion of this course, students should be able to identify the history, rules and regulations of the games of badminton and volleyball. They should be able to display acquired skill levels in each game and identify incorrect techniques in actual play. (0-3) 1

HPE 1114 Snow Skiing - Beginning: Upon completion of this course, students should be able to do parallel turns, christies, basic jump and introductory wedelin, and identify fundamentals of skiing, safety, and etiquette. Extra fees are charged for this class and are set yearly. (0-3) 1

***HPE 1115 Snow Skiing - Intermediate:** Upon completion of this course, students should progress to longer skis, concentrating on improving traverse and side slip; expand on angulation, pole plant and unweighting; and engage in an intermediate exercise program in order to handle advanced terrain. Extra fees are charged for this class and are set yearly.
*Prerequisite: HPE 1114 or equivalent (0-3) 1

***HPE 1116 Snow Skiing - Advanced:** Upon completion of this course, students should be able to perform slalom and giant slalom techniques, elementary downhill techniques, trick skiing and jumping, pole plant, moguls and be able to ski various types of terrain. Extra fees are charged for this class and are set yearly.
*Prerequisite: HPE 1115 or equivalent (0-3) 1

HPE 1123 Physical Fitness - Beginning: Upon completion of this course, students should be able to identify the aspects of physical fitness, strength, cardiovascular endurance and flexibility; identify personal fitness needs and goals; design a personal fitness program. (0-3) 1

***HPE 1124 Physical Fitness - Intermediate:** Upon completion of this course, students should be able to perform specific exercises contributing to physical fitness, explain the role exercise plays in the body systems, continue development of a personal fitness program.
*Prerequisite: HPE 1123 or equivalent (0-3) 1

***HPE 1125 Physical Fitness - Advanced:** Upon completion of this course, students should be able to identify and test themselves for cardiovascular improvement and plan an individualized program of exercise for immediate and future needs.
*Prerequisite: HPE 1124 or equivalent (0-3) 1

HPE 1126 Social Dance - Beginning: Upon completion of this course, students should be able to demonstrate specific dance skills and perform the following dances: Fox Trot, Waltz, Lindy, Cha-Cha, Rumba, and Shag. (Self-Supporting) (0-3) 1

***HPE 1127 Social Dance - Advanced Beginner:** Upon completion of this course, students should be able to perform more difficult steps and types of dance, including the Tango, Samba, Waltz, and Shag. (Self-Supporting)
*Prerequisite: HPE 1126 or equivalent (0-3) 1

***HPE 1128 Social Dance - Intermediate:** Upon completion of this course, students should be able to add more difficult steps to dances learned in HPE 1127. They will also learn to perform basic steps in the Charleston. (Self-Supporting)
*Prerequisite: HPE 1127 or equivalent (0-3) 1

HPE 1130 American & English Country Dancing: Upon completion of this course, students should be able to dance the basic formations, steps, and figures of American & English Country Dancing and also participate in life-long recreational activity of country dancing. Dancers will walk, skip or waltz in circle, square or contra dance formations. (Self-Supporting) (0-3) 1

HPE 1132 Weight Training I: Upon completion of this course, students should increase their total body strength by at least 20%; be able to demonstrate and explain the differences between various strength training programs, including circuit training, pyramids, endurance training, and power training; establish a personal strength training program. (0-3) 1

HPE 1140 Self-Protection for Women: Upon completion of this course, students should be able to identify the princi-

ples of personal self-defense; recognize and use alternatives for self-protection in an attack situation; recognize and avoid danger in the car, office, home, or other setting; demonstrate actual defense techniques. (0-3) 1

***HPE 1145 Golf - Intermediate:** Upon completion of this course, students should be able to demonstrate a fundamental golf swing, identify safety rules and etiquette on a golf course, detect patterns of strengths and weaknesses of shots. Extra fees (green fees and cart) are charged. Students provide their own balls and clubs.
*Prerequisite: HPE 1191 or equivalent (0-3) 1

HPE 1147 Tennis - Beginning: Upon completion of this course, students should be able to demonstrate the grips in performing a forehand and backhand ground stroke, perform a proper serve, volley and sustain a rally. Students will demonstrate knowledge of tennis rules and court etiquette. Students will provide rackets and balls. (0-3) 1

***HPE 1148 Tennis - Intermediate:** Upon completion of this course, students should be able to demonstrate intermediate playing skills, perform specific shots, and demonstrate various game strategies. Students will provide rackets and balls.
*Prerequisite: HPE 1147 or equivalent (0-3) 1

***HPE 1149 Tennis - Advanced:** Upon completion of this course, students should be able to perform advanced shots, spins, pace, and demonstrate various strategies. Students will provide rackets and balls. (Self-Supporting)
*Prerequisite: HPE 1148 or equivalent (0-3) 1

HPE 1150 Exercise for Handicapped: Upon completion of this course, students should be able to increase their level of fitness and demonstrate specific exercises relating to individual needs. (0-3) 1

***HPE 1153 Weight Training II:** Upon completion of this course, students should demonstrate an intermediate level of participation in strength training programs, such as circuit training, endurance and power training, and DeLorme training, and they should develop a personal strength training program.
*Prerequisite: HPE 1132 or equivalent (0-3) 1

HPE 1164 Yoga - Beginning: Upon completion of this course, students should be able to demonstrate the basic principles of Yoga, including physical postures, proper breathing techniques, attitudes of positive thinking and confident self-awareness, and techniques to improve relaxation and mental concentration. (0-3) 1

***HPE 1165 Yoga - Intermediate:** Upon completion of this course, students should be able to demonstrate more detail in physical postures, breathing, relaxation and mental concentration. (Self-Supporting)
*Prerequisite: HPE 1164 or equivalent (0-3) 1

***HPE 1166 Yoga - Advanced:** Upon completion of this course, students should be able to demonstrate advanced types of breathing and concentration using sounds and demonstrate difficult physical postures. (Self-Supporting)
*Prerequisite: HPE 1165 or equivalent (0-3) 1

HPE 1170 Aerobics I: Upon completion of this course, students should be able to define aerobic exercise and identify basic components of a program, participate in activities leading to improved cardiovascular efficiency, identify risk factors associated with cardiovascular disease, and implement a personal aerobics exercise program. (0-3) 1

HPE 1174 Rock Climbing: Upon completion of this course, students should be able to demonstrate proper techniques of rock climbing, bouldering, rappelling, and the correct method of belaying for climbing and rappelling. (0-3) 1

HPE 1175 Techniques of Lead Climbing: Upon completion of this course, students should be able to demonstrate strong and skillful techniques in top-rope climbs and rappels of advanced difficulty, demonstrate secure placement of pieces of protection, explain and demonstrate all safety practices for advanced top-rope rock climbing. (Self-Supporting) (0-3) 1

HPE 1176 Introduction to Backpacking: Upon completion of this course, students should be able to identify the differences between high- and poor-quality backpacking equipment, identify proper conservation and ecological practices while in the woods, plan meals for an overnight backpacking trip, demonstrate proper use of maps and compass. (0-3) 1

HPE 1177 Wilderness Skills: Upon completion of this course, students should be able to navigate in the woods using map, compass, and permanent landmarks; plan and conduct a backpacking trip; demonstrate survival procedures. (Self-Supporting) (0-3) 1

HPE 1180 Orienteering: Upon completion of this course, students should be able to define various types of orienteering, recognize and draw at least 15 topographic map symbols, and negotiate a cross-country orienteering course 3-5 km long in a specified time period. (0-3) 1

HPE 1182 Cross Country Skiing: Upon completion of this course, students should be able to demonstrate the following skills: diagonal stride, herringbone, snowplow, double pole single kick, and turning. Extra fees are charged for equipment rental. (0-3) 1

HPE 1184 Swimming - Beginner: Upon completion of this course, students should be able to demonstrate treading water, back float, crawl stroke 20 yards, and safety skills. Students provide their own swimsuits. (0-3) 1

***HPE 1185 Swimming - Advanced Beginner:** Upon completion of this course, students should be able to demonstrate survival floating, elementary backstroke, and crawl stroke. Students provide their own swimsuits.
*Prerequisite: HPE 1184 or equivalent (0-3) 1

***HPE 1186 Swimming - Intermediate:** Upon completion of this course, students should be able to demonstrate four basic strokes: breast stroke, side stroke, crawl stroke, and back crawl, and demonstrate scissors kick and breast stroke kick. Students provide their own swimsuits.
*Prerequisite: HPE 1185 or equivalent (0-3) 1

***HPE 1187 Swimming - Swimmer:** Upon completion of this course, students should be able to swim the breast stroke - 100 yards, side stroke - 100 yards, crawl stroke - 100 yards, back crawl - 100 yards, and swim 10 minutes. Students provide their own swimsuits.
*Prerequisite: HPE 1186 or equivalent (0-3) 1

HPE 1190 Introduction to Golf I: Upon completion of this course, students should be able to demonstrate the grip, stance, body posture, and the use of the putter, 9 and 7 irons. Extra fees are charged (green fees and balls). Students provide their own clubs. (0-3) 1

***HPE 1191 Introduction to Golf II:** Upon completion of this course, students should be able to demonstrate the use of the mid and long irons and woods, be able to identify game rules and etiquette, and put skills to use on a Par 3 course. Extra fees are charged (green fees and balls). Students provide their own clubs.
*Prerequisite: HPE 1190 or equivalent (0-3) 1

***HPE 1192 Aerobics II:** Upon completion of this course, students should be able to demonstrate advanced levels of aerobic activities, show improvement in cardiovascular efficiency, develop and maintain an aerobic plan for personal use.
*Prerequisite: HPE 1170 or equivalent (0-3) 1

HPE 1193 Fitness and Conditioning I: Upon completion of this course, students should be able to identify and demonstrate basic components of exercise and fitness, precautions, and benefits of a total conditioning program. They should also be able to develop in the areas of strength, flexibility, cardiovascular and muscular endurance. (0-3) 1

***HPE 1194 Fitness and Conditioning II:** Upon completion of this course, students should be able to demonstrate measured change in endurance, flexibility, strength and cardiovascular fitness and design a personal exercise program. Students will identify the importance of a well balanced diet and exercise program.
*Prerequisite: HPE 1193 or equivalent (0-3) 1

***HPE 1195 Fitness and Conditioning III:** Upon completion of this course, students should be able to identify and perform specific exercises, recognize motivating factors in beginning and maintaining an exercise program, demonstrate continued advancement in exercises and knowledge of a good diet.
*Prerequisite: HPE 1194 or equivalent (0-3) 1

HPE 1196 Gymnastics - Beginning: Upon completion of this course, students should be able to discuss gymnastic safety procedures; demonstrate a stretching and warm-up exercises for gymnastic apparatus; demonstrate basic moves in floor exercise, trampoline, unevens, parallel bars, beam, and rings. (0-3) 1

***HPE 1197 Gymnastics - Intermediate:** Upon completion of this course, students should be able to discuss and demonstrate spotting techniques for beginning and intermediate skills on all pieces of equipment and demonstrate a beginning to intermediate-level routine on selected pieces of apparatus.
*Prerequisite: HPE 1196 or equivalent (0-3) 1

HPE 1198 Bowling - Beginning: Upon completion of this course, students should be able to identify skills and rules, and demonstrate bowling strategy. Extra fees charged. (0-3) 1

HPE 1200 Creative Arts in Recreation: Upon completion of this course, students should be able to design and make basic arts and crafts for use with different ages in recreational settings and plan various music and dance programs in recreation. (1-3) 2

***HPE 1203 Water Safety Instructor:** Upon completion of this course, students should be able to demonstrate beginner swim skills, swimming strokes, and lifesaving skills.
*Prerequisite: HPE 1186 or equivalent (1-3) 2

***HPE 1215 Lifeguard Training:** Upon completion of this course, students should be able to identify hazards associated with aquatic facilities, recognize people in distress situations and effectively rescue them, operate a pool filter system, and direct a waterfront.
*Prerequisite: First Aid and CPR; HPE 1186 or equivalent (1-3) 2

HPE 1404 Introduction to Recreation: Upon completion of this course, students should be able to identify the historical foundations of recreation and leisure, list the definitions and current trends in recreation, explain the role of government in establishing recreation and leisure services at different levels, identify prospective careers in recreation. (3-3) 4

HPE 1405 Team Sports and Games in Recreation: Upon completion of this course, students should be able to demonstrate a knowledge of recreation activities suited to the needs, interests, and skills of various age groups with emphasis on games, stunts, relays, and rhythmic activities, and implement these activities for day care, playgrounds, schools, and recreational areas. (3-3) 4

HPE 2100 Bicycling: Upon completion of this course, students should be able to select a bicycle suitable to their size and needs, repair and maintain a bicycle, state the legal rights of a bicyclist, maneuver a bicycle safely around obstacles, ride a bicycle safely in traffic, know what equipment is necessary for a safe bicycle tour. Student must have a ten-speed bicycle. (0-3) 1

***HPE 2111 Independent Study - Weight Training I:** This course is designed for students who are unable to attend a fixed scheduled class. Upon successful completion of this course, students should be able to identify components of fitness, increase body strength by at least 20%, establish a personal strength training program. The student will work with an instructor in meeting the objectives of this course.
*Prerequisite: Departmental approval (0-3) 1

***HPE 2112 Canoeing - Basic:** Upon completion of this course, students should be able to demonstrate safe-handling skills, self-rescue skills, and ways to apply these skills, and name the parts of a canoe and be able to perform the following strokes: bow, sculling, reverse sculling, sweep, reverse sweep, and J. Extra fee charged for canoe rental.
*Prerequisite: Demonstrate swimming ability (0-3) 1

***HPE 2113 Canoeing - Rivers:** Upon completion of this course, students should be able to define rocher, beam and displacement; demonstrate self rescue; discuss safety considerations for canoeing; define and demonstrate eddy turn, peel out and feel in moving current; identify six river obstacles. Extra fee charged for canoe rental.
*Prerequisite: HPE 2112 or equivalent (0-3) 1

***HPE 2114 Canoeing - Basic White Water:** Upon completion of this course, students should be able to demonstrate skills in maneuvering around objects, backferrying, eddy turns, peel outs and self-rescue techniques in Class II and III rapids while paddling both tandem and solo; distinguish between the classes of whitewater; and discuss how to scout

a rapid. Extra fee charged for canoe rental.
*Prerequisite: HPE 2112 or equivalent (0-3) 1

***HPE 2115 Introduction to Kayaking:** Upon completion of this course, students should be able to demonstrate various skills such as forward and reverse stroke, forward and reverse sweep and Eskimo roll; perform self rescue; and demonstrate safe practices in a kayak. Extra fee charged for rental of kayak.
*Prerequisite: Demonstrate swimming ability (0-3) 1

***HPE 2116 Whitewater Kayaking:** Upon completion of this course, students should be able to execute a river roll, skillfully and safely negotiate all Class II and some Class III rapids, be able to rescue a kayak and kayaker, and perform self rescue in Class II rapids. Extra fee charged for rental of kayak.
*Prerequisite: HPE 2115 or equivalent (0-3) 1

HPE 2200 Sports Officiating: Upon completion of this course, students should be able to identify responsibilities of officiating team sports; identify rules of the game; demonstrate good mechanics of officiating; demonstrate alertness, good judgment, and decisiveness in calls; demonstrate poise; demonstrate consistency and good reaction time in calls. (1-3) 2

HPE 2314 Lifetime Activities: Upon completion of this course, students should have a basic understanding of specific individual activities such as archery, golf and tennis, and demonstrate all skills involved in these activities; set up and organize a program in the community involving lifetime wellness activities; demonstrate techniques of teaching skills to others and evaluate effectiveness of the program. (2-3) 3

HPE 2325 Introduction to Outdoor Recreation: Upon completion of this course, students should be able to detail the handling of an emergency situation in the wilderness (first aid and environmental), discuss staffing an outdoor program, plan an outdoor trip, and establish a risk management plan. (2-3) 3

HPE 2434 Recreation and Special Populations: Upon completion of this course, students should be able to identify recreation services available for special populations, list principles of recreation programming, and design a plan for selected groups. (3-3) 4

HRM – Hotel/Restaurant Management

HRM 3104 Speaker Seminar I: Upon completion of this course, as a result of field trips, guest speakers and lecturers, students should be able to perform with greater competence the particular work-related skills involved in the specific jobs observed; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment, and evaluate their own capacity to comply with such demands; and analyze the job market in their chosen career prior to entrance into that career as a full-time employee. (1-0) 1

HRM 3300 Introduction to Hotel/Restaurant Management: Upon completion of this course, students should be able to compare the present-day operations of inns and restaurants to those of the past, define the different types of restaurant and food services, identify the positions within hotels and restaurants, compare the departments within a hotel and restaurant, distinguish between franchise and individually-owned properties, and assess future opportunity in a career with the hospitality industry. (3-0) 3

HRM 3301 Hospitality Law: Upon completion of this course, students should be able to assemble and organize a system to prevent lawsuits and losses costly to today's inns; relate local, state, and federal regulations to operations of modern inns; and describe different instruments of finance that are used in the operation of modern inns. (3-0) 3

***HRM 4200 Topics in Hotel/Restaurant Management:** Students will conduct career-related projects as described in the training plan. The training plan, designed to meet needs not met by other offerings, will be developed by the Program Director and an appropriate training sponsor in the business community. Each student will work under the direct supervision of the Program Director.
*Prerequisite: Approval of the sponsor and Department Head is required. (TBA)

HRM 4300 Hotel/Restaurant Marketing: Upon completion of this course, students should be able to organize a marketing schedule for future use, assemble positive sales ideas, prepare property and market analysis, prepare a sales forecast, and develop a sales promotion for a particular property. (3-0) 3

HRM 4301 Housekeeping Procedures: Upon completion of this course, students should be able to demonstrate the ability to plan an organized area for the Housekeeping Department, implement a time study and procedures standard for cleaning a motel room, identify hazards in a motel, develop standards and procedures for purchasing and inventory controls, and implement procedures for the reporting of repairs and preventive maintenance needs. (3-0) 3

***HRM 4302 Hotel/Restaurant Management-Related Problems:** Upon completion of this course, students should be able to compare circumstances of hotel/restaurant operations to everyday work situations, institute a workable plan to control and maintain good employee morale, and write and identify standards of dress and conduct. Through role playing and analysis, students will become familiar with actual situations that will be encountered in future employment.
*Prerequisite: HRM 3300, HRM 3301, HRM 4301, HRM 4300 (3-0) 3

***HRM 4400 Restaurant Service Management:** Upon completion of this course, students should be able to identify the different stations and responsibilities of good service, identify and purchase proper equipment in dining room set-up, demonstrate practical sanitation and safety procedures, demonstrate to others the proper methods of being a waiter/waitress, and set-up guidelines for future management of dining rooms.
*Prerequisite: TAT 3200 (2-6) 4

***HRM 4304 Practicum I:** Upon completion of this course, students should be able to exhibit positive work attitudes and write job descriptions for the departments within the hotels/motels assigned during clinical experience. Lab or clinical experience will consist of on-the-job training within the following areas: housekeeping, superintendent of trans

portation and services, maintenance, and front office.
*Prerequisite: Consent of Department Head (2-10) 3

***HRM 4305 Practicum II:** This is a continuation of Practicum I with continued emphasis on work attitudes and job descriptions. Students will be assigned to the restaurant of a hotel/motel and will cover the following areas: dishwashing department, salad department, cook's helper, chef's helper, chef's assistant, dining room-busboy, dining room-waiter/waitress, and bar/lounge bartender.
*Prerequisite: HRM 4305 or consent of Department Head (2-10) 3

HSA – Human Services

HSA 3300 Introduction to Chemical Dependency: Upon completion of this course, students should be able to discuss the history of alcohol/drug use and abuse, particularly in western countries; compare and contrast various theories of addiction including sociocultural, psychological, physiological, behavioral, and disease concept; explain the fundamental concepts of the addictive process; identify and define various components of the chemical dependency field including prevention, intervention, education, detoxification, treatment, aftercare, support groups, and EAPs; identify and describe the relationship of chemical dependency to other social problems such as domestic violence, crime, child abuse, sexual abuse, Fetal Alcohol Syndrome, and health care. (3-0-0) 3

HSA 3301 Assessment, Diagnosis, & Treatment of Chemical Dependency: Upon completion of this course, students should be able to identify the essential elements of a thorough chemical dependency assessment; describe both the formal and informal process of assessment, leading to identifying the client's strengths, weaknesses, needs and problems; compare and contrast the NCA Criteria for Diagnosis with the DSM III-R Criteria on Psychoactive Substance Disorders; demonstrate an ability to diagnose utilizing DSM III-R criteria; identify and describe the following levels of care: detoxification, medically-managed inpatient, residential inpatient, intensive outpatient, low-intensity outpatient services, aftercare, halfway house, and Twelve Step programs. (3-0-0) 3

HSA 3302 Pharmacology of Chemical Dependency: Upon completion of this course, students should be able to demonstrate a basic understanding of the effects of alcohol and drugs on the human body; discuss the potential of psychological and physiological dependence of alcohol and drugs; identify the signs and symptoms of intoxication, tolerance, withdrawal and overdose of alcohol and other drugs; identify the major classifications of drugs. (3-0-0) 3

HSA 3311 Introduction to Developmental Disabilities I: Upon completion of this course, students should be able to list and discuss basic human rights; compare historical and present attitudes toward treatment/habilitation of persons with developmental disabilities; describe the history of institutionalization and deinstitutionalization; explain the concept of normalization and examples of its implementation; describe how legislation, litigation and case law evolves into program standards; identify residential alternatives to institutionalization; describe the continuum of educational, residential and vocational services and related goals for persons with MR/DD and their families from birth to death. (3-0-0) 3

HSA 3312 Introduction to Developmental Disabilities II: Upon completion of this course, students should be able to explain the present and historical MR/DD definitions and classification systems; give an explanation of bio/medical, psychosocial and cultural/familial causes of mental retardation, autism, cerebral palsy, epilepsy, traumatic brain injury, and dual diagnosis; define advocacy as related to persons with MR/DD and their families; describe advocacy and professional organizations concerned with the needs and rights of persons with MR/DD; describe the role of the family throughout the life of a person with MR/DD including IFSP, IEP, and Guardianship. (3-0-0) 3

HSA 3313 Health Issues in Developmental Disabilities I: Upon completion of this course, students should be able to state the universal precautionary measures and infection control for bloodborne pathogens, communicable diseases and sexually transmitted diseases; identify the five r's of medication administration; successfully complete a simulated medication pass and identify two classifications of medications commonly used with DD population; list and describe the proper use of five pieces of adaptive equipment; demonstrate three proper lifting and transfer techniques; list the major types of seizures and the common medication for their control; identify five first aid rules to follow for seizures. (3-0-0) 3

HSA 3314 Health Issues in Developmental Disabilities II: Upon completion of this course, students should be able to prepare a weekly menu plan based on current nutritional standards; prepare adaptation of a menu plan for a special diet; identify basic sanitation guidelines for food preparation; describe and discuss three current issues in human sexuality for persons with MR/DD; describe a training plan for dental care; define stress as it occurs in both personal and professional situations; identify methods for managing stressful situations; demonstrate through role play and the successful handling of two situations relating to advocacy in health care; describe procedures for observing, reporting and recordings signs and symptoms of illness; identify home nursing procedures used for the care of three common illnesses/injuries; list ten common safety concerns in the home and community environment. (3-0-0) 3

***HSA 3340 Client Group Dynamics:** Upon completion of this course, students should be able to demonstrate their own style of group leadership in working with client groups, identify various behavioral roles of clients within groups, demonstrate methods of motivating clients and resolving conflicts within group interactions.
*Prerequisite: HSA 3501, HSA 3502, or consent of Program Director (3-0-0) 3

***HSA 3341 Interpersonal Relationships II:** Upon completion of this course, students should be able to distinguish among assertive, passive, and aggressive behaviors, and to develop their own assertive skills and demonstrate the use of these skills in professional and personal behavior.
*Prerequisite: HSA 3501, HSA 3502, or consent of Program Director (3-0-0) 3

***HSA 3414 Helping Relationship-Advanced Technique:** Upon completion of this course, the student should be able to identify and distinguish appropriate responses in the initial and continuous helping relationships, including helper assertiveness and client motivation; discuss the force-field analysis of problem solving, including identifying and clarifying the client's problems and establishing client's goals and implementing tasks, reviewing and evaluating the

client's progress; demonstrate a more effective skill of helping by the use of feeling, discrimination, concreteness, confrontation and alternative action, decision making, and problem solving.
*Prerequisite: HSA 3604 (3-0-3) 4

HSA 3421 Stress and Crisis in Contemporary Society: Upon completion of this course, the student should be able to identify and discuss the major factors of behavioral and physical development relating to stress/anxiety; identify and define real-life crisis: alcohol/drug abuse, suicide, agoraphobia, grief/loss, maturational crisis, psychiatric emergencies, and post-traumatic stress disorder; define and discuss the association of crisis/stress to anxiety, defense mechanisms, values and belief systems, needs, and cultural and environmental influences; identify and discuss the major factors and characteristics of a disaster and community crisis, including psychological shock, psychiatric epidemic, and disaster syndrome; identify methods of psychological intervention to specific behavioral problems; demonstrate skills of coping with individual anxiety/stress and of helping a stress victim(s), both in non-verbal and verbal response; identify various local agencies dealing with crisis and discuss their function and methods of referral and treatment. (4-0-0) 4

HSA 3501 Introduction to HSA: Upon completion of this course, the student should be able to describe the Human Services programs; give the four core courses, describe their content, and explain the rationale for their inclusion as core courses; given a program area, name at least three agencies related to it and describe the type of clients referred to these agencies; describe correctly the procedure for being advised and contracting for field placement; identify the following specific major client groups and the various stresses caused by social, emotional, and physical characteristics associated with each group: those with mental health problems, the emotionally disturbed, alcoholics, drug abusers, the sexually abused, the mentally retarded, the brain damaged, epileptics, those with learning disabilities, the visually impaired, the hearing and speech impaired, those with physical disabilities, the aged; identify specific agencies which offer services to the above client groups. (5-0-0) 5

HSA 3502 Interpersonal Relationships I: Upon completion of this course, the student should be able to demonstrate five skills of non-verbal communications, demonstrate five skills of verbal communications, identify and list at least three personal strengths and three weaknesses in relationships with others, identify five personal values, identify four personal behavioral goals, demonstrate ability to change two identified negative behaviors and develop two identified positive behaviors, list and describe Maslow's Hierarchy of Needs, list Erikson's eight stages of development, list and describe Powell's five levels of communication, identify and describe five games people play and the defense mechanism involved in each. (5-0-0) 5

***HSA 3600 Community Organization and Casework Preparation:** Upon completion of this course, the student should be able to identify and define a Human Services paraprofessional; identify and describe roles and correlated activities that a HSA worker might play in social change in a local neighborhood or community; identify and describe the philosophies, measures, and procedures used in vocational and social rehabilitation of the physically and mentally disabled; identify and describe the scientific method of problem solving; identify the members of the professional teams used in human services agencies and describe their backgrounds and functions; identify the major organizational structure of human resources at federal, state and local levels, including functions and practices; identify and describe strengths and weaknesses of current delivery systems; observe behavior and record significant observations in simple descriptive form; identify documents in a case file and basic forms used in various agencies; identify facilitative methods of questioning in a helping interview; identify various non-verbal and verbal cues in a helping interview; demonstrate the use of appropriate questions, statements, and non-verbal responses in a helping interview.
*Prerequisite: HSA 3340, HSA 3341, and permission of Program Director (3-0-9) 6

***HSA 3604 Helping Relationship - Technique:** Upon completion of this course, the student should be able to discuss the Model of Facilitation, identifying the levels of a helping relationship and their characteristics as found in the Model; identify non-verbal communication behaviors of time, body, and voice and discuss their effect in the helping relationship; identify closed and open questions and discuss their use in the helping relationship; identify and distinguish appropriate and inappropriate responses and leads.
*Prerequisite: HSA 3600 or consent of Program Director (3-0-9) 6

HSA 4103 Stress Management: Upon completion of this course, the student should be able to define stress as it occurs in both personal and professional situations, identify methods for assessing stress and for managing stressful situations, evaluate individual stress and coping patterns. (1-0-0) 1

HSA 4300 Chemical Dependency and the Family: Upon completion of this course, the student should be able to discuss the differences between a functional, healthy family and a dysfunctional, addicted family; describe systems theory, and compare and contrast Experiential/Humanistic, Bowenian, and Structural viewpoints; describe the effect of chemical dependency on the family; identify and define the roles developed by the family members, including addict, enabler, family hero, mascot, lost child and scapegoat; discuss the stages of adjustment by the family to addiction and recovery; describe the ways in which childhood role development affects family members in adulthood; identify important issues and elements in treating family members. (3-0-0) 3

HSA 4301 Chemical Dependency and Diverse Populations: Upon completion of this course, the student should be able to describe the unique problems and issues experienced by the following diverse populations: African-Americans, Native Americans, adolescents, elderly, women, dual diagnosis, HIV, and gay/lesbian; discuss the ways in which these unique problems may influence the development of chemical dependency and impact on the recovery process; identify the myths, stereotypes and prejudices that are a part of each group; identify and describe understanding of the student's own belief system regarding each of these diverse populations; discuss how this belief system may influence the student's ability to be effective with each group. (3-0-0) 3

HSA 4302 Strategies for Recovery from Chemical Dependency: Upon completion of this course, the student should be able to describe and discuss the dynamics of relapse including the role of the family; identify the important components in relapse prevention; discuss the historical development of Alcoholics Anonymous and evolution of

other Twelve Step Programs; demonstrate an understanding of the Twelve Steps and Twelve Traditions; identify and discuss the important elements of Twelve Step programs, including sponsorship, spirituality vs. religion, the use of slogans, the Serenity Prayer, and the various meeting formats; compare and contrast mutual self-help programs with professional treatment; describe the special issues of the recovering professional. (3-0-0) 3

HSA 4311 Teaching Persons with Developmental Disabilities I: Upon completion of this course, the student should be able to describe behavior in objective terms; describe and conduct an environment inventory including a family interview; write goals, objectives and task analysis in the areas of self-help, leisure/recreation, community, vocational and independent living skills, incorporating levels of independence; describe and demonstrate five data-collection systems; define and describe the interdisciplinary process. (3-0-0) 3

HSA 4312 Teaching Persons with Developmental Disabilities II: Upon completion of this course, the student should be able to give examples of adaptations to environment and list examples of adaptive equipment, describe and implement reinforcement techniques for teaching behavior, describe and implement restrictive intervention techniques, discuss regulations governing restrictive intervention techniques, list several considerations for structuring the environment, describe and implement different levels of prompting sequences, describe and implement shaping and chaining techniques, list and describe different types of data-based changes to instruction. (3-0-0) 3

HSA 4411 Interdisciplinary Team Process: Upon completion of this course, the student should be able to list the basic components of the individual planning process and product; describe the rationale and benefits of the individual planning process; describe how values influence the outcomes of planning services; describe effective communication styles and problem-solving methods in group decision making; participate in a simulated interdisciplinary team process; describe techniques for increasing consumer self-advocacy; conduct a structured interview with a person with a developmental disability, the person's family, and the service providers involved with that person; identify objectives written in behavioral terms. (3-0-3) 4

HSA 4505 Helping Relationship - Theory: Upon completion of this course, the student should be able to identify the basic principles of various techniques used in helping, including Psychoanalysis, Existential-Humanistic, Behavior Modification, Transactional Analysis, Rational-Emotive, Client-Centered, Gestalt, Reality, Group, and others; discuss the theory of human behavior which forms a basis for each technique; identify major founders/contributors to each theory/technique; describe how each technique is used with clients, identifying advantages and disadvantages, positive and negative aspects, of each technique; compare and contrast the various theories and techniques. (5-0-0) 5

***HSA 4508 Senior Internship:** Upon completion of this course, the student should be able to discuss thoroughly the work experience in the student's specialty area; discuss the procedures, treatment methods, and service techniques of the agency where the student interns; complete an in-depth research project as a major contribution to the student's Human Service program selected in consultation with the instructor; maintain twelve hours of internship per week, documented in a weekly log reflecting the student's experiences in the internship.
*Prerequisite: HSA 3604 and permission of Program Director (1-0-12) 5

HSA 4511 Introduction to Social Welfare: Upon completion of this course, the student should be able to define social welfare and its relationship to social work in the United States; discuss the social, historical, and political development of the American Social Welfare System and its institutions; identify and discuss recent trends in social welfare, including the identification of legislation (laws, bills) affecting the system; discuss the basic characteristics of American society which contribute to the breakdown of individual and family self-care; discuss the condition and extent of poverty in the United States today and current programs, both in operation and proposed, aimed at the alleviation of poverty and related social conditions. (5-0-0) 5

HSA 5200 Human Relations: Upon completion of this course, the student should be able to demonstrate self awareness and personal growth by listing five or more new things that they have learned about themselves, and five or more ways in which they have changed; identify at least five of the things in life they value; demonstrate skills for effective communication with others, such as listening and empathy; list ten defense mechanisms and discuss the ones each student uses; list five or more goals and decisions they have made during the course; discuss at least five ways to put into practice on a future job some of the human relations skills learned during the course. (2-0-0) 2

HSD – Adult High School
See page 45.

HSE – Occupational Health, Safety, and Environmental Technology

HSE 3301 Safety Engineering: Upon completion of this course, students should demonstrate an understanding of the role(s) of the safety engineer; understand accomplishments of engineers; understand the relationship between safety engineering and accidents; perform preliminary hazards analysis, failure mode and effects analysis, and fault tree analysis; understand production and processing losses; and review technical societies relative to the engineering field. (3-0-3) 3

HSE 3311 Practical Electrical Safety: Upon completion of this course, students should demonstrate an understanding of the perception of electrical shock, effects of high current in the body, burns from electrical shock and rescue of shock victims. They should also demonstrate an ability to control electrical hazards in the workplace, home, and construction-related areas. Case histories and electrical worker surveys will be reviewed and discussed. (3-0-3) 3

HSE 3401 Introduction to Safety: Upon completion of this course, students should be able to understand the role(s) of the safety practitioner regarding safety objectives within management; understand the safety function relative to worker's com-

pensation; understand the importance of accurate record keeping and training; and understand correct handling procedures for hazardous materials. (4-0-4) 4

***HSE 4290 Cooperative Work Experience I:** This internship is designed for students in the Occupational Health, Safety and Environmental Technology Program to give them necessary experience in the challenging fields of Health, Safety and Environmental Affairs. This internship is one quarter in duration and may be completed during the student's course of study. Approval of the Program Director is required and application must be made prior to registration.
*Prerequisite: Application and approval of the Cooperative Education Office (2-0-2) 2

***HSE 4291 Cooperative Work Experience II:** This course is a continuation of Cooperative Education I. This program should be completed following completion of HSE 4290.
*Prerequisite: HSE 4290 and approval of the Cooperative Education Office; see the Program Director (2-0-2) 2

HSE 4300 Ergonomics: Upon completion of this course, students should be able to understand the application of ergonomics in industry; plan the industrial ergonomic effort; and implement the industrial ergonomics effort by obtaining management support, creating interest in the program and evaluating the program components. (3-0-3) 3

HSE 4401 Environmental Regulations: Upon completion of this course, students should be able to identify specific environmental regulations relative to general industry. This course will provide a comprehensive review and an interpretation and applicability study of existing environmental regulations. Students will design an environmental compliance questionnaire in conjunction with current EPA standards. (4-0-4) 4

HSE 4500 Environmental Liability: Upon completion of this course, students should understand the types of liability associated with federal and state environmental acts. Joint, several, strict, criminal, and civil liability will be introduced in addition to a review of case studies involving environmental suits and potentially responsible parties. (5-0-5) 5

HSE 4503 Environmental Management and Control: Upon completion of this course, the students will be able to understand the basic environmental chemistry of hazardous and solid waste, basic air quality compliance issues, basic environmental toxicology, waste treatment and disposal technologies, and air emissions control technologies. (5-0-5) 5

***HSE 4504 Basic Industrial Hygiene:** Upon completion of this course, students should have a clear understanding of the history and development of the industrial hygiene movement. They will be able to identify the role of the industrial hygienist relative to the employee's needs, in addition to working with the occupational physician. Federal agencies such as NIOSH and OSHA will be introduced and reviewed with all students. Introduction to harmful agents, routes of entry, skin disease, types of airborne contaminants, and threshold limit values will be reviewed and discussed.
*Prerequisite: Chemistry 1504 (4-2-5) 5

***HSE 4514 Industrial Hygiene Management:** Upon completion of this course, students should be able to design, implement, evaluate, and manage an industrial hygiene program. Each student will be responsible for developing an occupational health program which deals with a recognized health hazard within general industry. All programs are designed to recognize specific occupational health hazards relative to industry with emphasis being placed on the evaluation and control of such existing hazards.
*Prerequisite: HSE 4504 (5-0-5) 5

***HSE 4515 Industrial Hygiene/Sampling Techniques:** Upon completion of this course, students should be able to calibrate sampling equipment correctly, monitor for airborne contaminants, and establish interim and final abatement steps for corrective action. They will receive instruction in the calibration and operation of air sampling equipment, noise level meters, dosimeters and other sampling instruments. Existing NIOSH sampling techniques will be used in the performance of sampling.
*Prerequisite: CHM 1505, HSE 4504, HSE 4514 (5-0-5) 5

HUM – Humanities

HUM 1319 Mythology: This course is a study of myths and legends, chiefly Greek and Roman. Upon completion of this course, students should be familiar with the myths; be able to assess the influence of myths on art, custom, and tradition; recognize the impact of myths on contemporary thought. (3-0) 3

HUM 1329 Slavic Literature and Culture: Upon completion of this course, students should be able to demonstrate a general knowledge of Slavic culture as revealed in selected readings, lectures, and audiovisual presentations. They should be able to demonstrate an awareness of geographical, historical, and political factors affecting life and the arts in the Slavic world. (3-0) 3

HUM 1500 Humanities—Classical to Medieval: Students should become aware of the humanities as the record—in literature, art, sculpture, architecture, music, and philosophy—of answers by humankind to the fundamental questions of existence, and acquire an appreciation of them as such; be able to recognize the values held by humankind as they are reflected in the humanities from classical to medieval times and assess the validity which the contributions of the past have for the present; be able to identify the major writers, musicians, artists, architects, and sculptors of the period studied; have some familiarity with their respective contributions to civilization. (5-0) 5

HUM 1501 Humanities—Renaissance to Present: Students should become aware of the humanities as the record—in literature, art, sculpture, architecture, music, and philosophy—of answers by humankind to the fundamental questions of existence and acquire an appreciation of them as such; be able to recognize the values held by humankind as they are reflected in the humanities and assess the validity which the contributions of the past have for the present; be able to identify the important writers, musicians, artists, architects, and sculptors of the period studied; have some familiarity with the major contributions to civilization. (5-0) 5

HUM 1510 Writers and Revolutionaries: This course is a study of 20th century man's radical attempts to change the social order while resisting totalitarianism. Students should be able to state the consequences of the revolutionary upheavals since World War I as seen in fiction and non-fic

tion focused on China, Europe, Southeast Asia, Latin America, and Africa.
NOTE: This course is a Writing Intensive Elective for UNCC. (5-0) 5

HUM 1590 Phi Theta Kappa/W.K. Kellogg Leadership Development Program: This course is focused on the development of leadership skills. It is designed to provide a basic understanding of leadership and of group dynamics theory and to assist students in developing a personal philosophy of leadership, an awareness of the moral and ethical responsibilities of leadership, and an awareness of their own styles of leadership. This course integrates readings from the humanities, classic works of literature, contemporary multi-cultural writings, and experiential learning exercises with readings and discussions of traditional leadership theories. (5-0) 5

***HUM 2320 Special Topics:** This is an advanced course in which students and an instructor select a topic for in-depth study.
*Prerequisite: Approval of the sponsoring instructor and the Department Head (3-0) 3

Human Services – See HSA

INS – Insurance

INS 3340 Principles of Risk and Insurance: Upon completion of this course, students should be able to describe the basic concepts of risk, including its relationship to probability theory and the law of large numbers; discuss the relationship between risk and insurance; list and discuss the principles of risk management and the role of the risk manager; describe the nature and function of risk management process and the risk handling methods; discuss the principles of insurance contracts; and write a basic risk management proposal. (1-4-0) 3

INS 3341 Personal Property and Casualty Insurance: Upon completion of this course, students should be able to describe the legal basis of insurance and discuss the following terms: insurable interest, indemnity, material fact, warranty and concealment; explain the coverages available in Personal Auto Policies and Personal Umbrella Policies; and explain and compare the various Dwelling and Homeowner policies. (2-2-0) 3

***INS 4200 NASD Series 22 Review:** This course is designed to prepare students for the NASD Series 22 exam. Students should be able to describe the life cycle of a Tax Advantage Investment; evaluate Tax Advantage Investments, such as Real Estate, Oil and Gas, Equipment Leasing, Agriculture, Coal, Exotics, Taxation; determine client fit; explain the applicatory Federal Securities Regulations, including Securities Act of 1933 and Securities Exchange Act of 1934; and pass Series 22 Exam on Direct Participation Programs.
*Students should register for the Series 22 Exam before taking this course. (2-0) 3

INS 4201 Part 1—Principles of Life and Health Insurance: LOMA Part 1 is designed to acquaint students with the basic features of life and health insurance and annuity products. Upon completion of this course, students should be able to list the elements of an insurable risk; define the basic life, health, and annuity products; explain premium calculations and reserves; describe the major clauses in a life policy; and pass the FLMI Part 1 Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins.(2-0) 2

***INS 4202 Part 2—Life and Health Company Operations**: LOMA Part 2 focuses on the business organization of the insurance industry. Upon completion of this course, students should be able to differentiate between stock and mutual insurers, fraternal societies, savings banks and governmental plans; explain the following functions of a company: actuarial, marketing, underwriting, policy owner service, legal investment and accounting; and pass the FLMI Part 2 Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins.
*Prerequisite or corequisite: INS 4201 (2-0) 2

***INS 4203 Part 3—Legal Aspects of Life and Health Insurance:** The basic features of the legal environment which affect a life and health insurance company's products and operations are presented in LOMA Part 3. Upon completion of this course, students should be able to distinguish between constitutions, case law and statutes; recognize valid, void, and voidable contracts; discuss the basic principles of agency law; describe the formation of a life contract; describe actions and defenses of contesting the contract; explain the legal effect of policy loans; describe the law of wills, interpleader, rescission and reformation; and pass the FLMI Part 3 Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins.
*Prerequisite: INS 4202 (2-0) 2

***INS 4208 Part 8li—Life Insurance Investments:** The purpose of this LOMA-Part 8li preparatory course is to familiarize students with the types of investment media used by insurance companies and with the policies and practices of investment management in varying economic environments. Upon completion of this course, students should be able to describe a financial analysis, investment policies of a life insurer, kinds of mortgages, alternatives to mortgages; define real estate appraisal methods; explain managing investment techniques, the legal aspects of mortgages and how mortgages are administered; and pass the FLMI 9li Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins.
*Prerequisite: INS 4202 (2-0) 2

***INS 4210 Part 10gi—Group Insurance:** This LOMA-Part 10gi preparatory course examines the development, technical aspects, and administration of group life and health insurance coverages. Upon completion of this course, students should be able to describe the background, characteristics, forms, ratings, underwriting, and administration of group life and health plans; list other forms of group insurance including government insurance programs; and pass the FLMI Part 10gi Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins.
*Prerequisite: INS 4202 (2-0) 2

***INS 4211 Part 10cl—Life and Health Insurance Claims:** The purpose of this LOMA Part 10cl preparatory course is to familiarize students with the medical, legal, and organizational aspects of claim administration. Upon completion of this

course, students should be able to use basic medical terminology properly; describe the claim administration process and how it is managed; list general claim considerations of all types of life and health policies; explain how life insurance proceeds are distributed; and pass the FLMI Part 10cl Exam. Students must register with Life Office Managers Association to sit for the national exam. Students should order their books before class begins.
*Prerequisite: INS 4202 (2-0) 2

***INS 4280 NASD Series 6 and 63 Review:** This course is designed as a review for persons taking the NASD Series 6 and 63 Exams. Upon completion, students should be able to explain the laws applicable to variable annuities, mutual funds, and Blue Sky transactions and pass both national exams.
*It is suggested that students register for Series 6 and 63 Exams before taking this course. (2-0) 2

***INS 4284 Cooperative Work Experience I:** Upon completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-op Office (0-0-20) 2

***INS 4285 Cooperative Work Experience II:** A continuation of INS 4284, this course further refines the students' work experience skills. Upon successful completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held, evaluate their interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the specific requirements and responsibilities of successful employment in the field and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as a full-time employees.
*Prerequisite: INS 4284 and Permission of Department and Co-op Office (0-0-20) 2

***INS 4286 Cooperative Work Experience III:** A continuation of INS 4285, this course further refines the students' work experience skills. Upon successful completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held, evaluate their interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the specific requirements and responsibilities of successful employment in the field and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as a full-time employees.
*Prerequisite: INS 4285 and Permission of Department and Co-op Office (0-0-20) 2

INS 4294 General Insurance-Part I—Introduction: This is the first course in a series which, when completed, qualifies students to take the licensing exam given by the Department of Insurance for insurance agents. Upon completion, students should be able to identify the types of risk and how to apply the risk management concepts to functions of insurance companies, and interpret the various laws and regulations affecting the insurance industry. (2-0) 2

***INS 4297 General Insurance-Part IV—Adjusters:** Upon completion of this course, students should be able to describe the legal basis of contracts and claims; discuss the elements and purpose of negligence, principle of single recovery, res gestae, family purpose doctrine and the presumptions of res ipsa loquitur and respondent superior; list and discuss the principles of torts; describe and discuss the art of investigation and interviews; list the principles and describe the nature and function of negotiations, arbitration, settlement, and lawsuits; list and discuss various medical reference sources, medical terminology, and diagnostic procedures. When completed with INS 4294 and INS 4396, students should be able to pass the Adjusters Exam administered by the North Carolina Department of Insurance.
*Prerequisite: INS 4396 (2-0) 2

***INS 4298 General Insurance-Part V—Medicare Supplement/Long Term Care:** A continuation of INS 4395 for students who wish to add the marketing of these specialized products to their Life and Health. Upon completion of this course, students should be able to explain Medicare A and B and Medicaid to a client, aid the client in selecting the Medicare Supplement and Long Term Care products necessary to supplement Medicare A and B, apply North Carolina and Federal laws to the agent client relationship, and complete the Medicare Supplement/Long Term Care Licensing Exam.
*Prerequisites: INS 4395 or Life and Health agent's license (2-0) 2

INS 4315 Property and Liability Insurance (HS 315): This course is designed particularly for multi-line agents and is an elective in both CLU and ChFC. This course will introduce the students to personal financial planning and will provide an in-depth study of the Personal Auto Policy and the various Homeowner's Policy forms and endorsements for each. Further, the course will cover other properly and liability policies such as: personal umbrella policies, Businessowner's Policies and Dwelling Policies. Case studies will be made by the students. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4317 Multiline Insurance Law and Operations: This course is designed particularly for multi-line agents. Upon completion of this course, students should be able to recognize and discuss laws of insurance, contracts, and torts; underwriting personal property and liability insurance; pricing personal property and liability insurance, personal insurance claims, and handling practices. (3-0) 3

INS 4320 Fundamentals of Financial Planning (HS 320): This introductory course, required in both CLU and ChFC, sets the stage for programs by providing an overview of the environment in which financial services professionals assist clients in meeting their financial counseling and planning needs. Upon completion of this course, students should be able to use effective communication skills in gathering client information and meeting client needs through financial planning; explain to a client the time value of money and use the formulas in actual planning cases; describe and use income

and estate tax planning; explain to a client the risk management process and how insurance planning, investment planning, and retirement planning affect it; use computerized financial planning; and explain the regulatory and ethical environment of financial planning. Students must register with the American College to sit for the national exam. Students should order their books before the first class. (3-0) 3

INS 4321 Income Taxation (HS 321): This preparatory course, which is required in both CLU and ChFC, provides an overview of the federal income tax system with particular reference to the taxation of life insurance and annuities. Upon completion of this course, students should be able to recognize and describe basic income tax concepts; calculate gross income, deductions for business and production of income expenses, losses, bad debts, other deductions and tax credits, cost recovery, and sales and exchanges; describe capital gains and losses, alternative minimum tax, taxation of life insurance, taxation of corporations and their shareholders, taxation of partnerships and partners. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4322 Financial System in the Economy (HS 322): This preparatory course, which is an elective in both CLU and ChFC, is designed to explain the basic economic principles and institutions, an understanding of which is necessary for an appreciation of alternative explanations of and alternative solutions for the more common economic problems found in private and government sectors. Upon completion of this course, students should be able to recognize and explain the role of the financial system; describe assets, money, and financial transactions; compare insurance companies, pension funds, and other financial institutions; discuss commercial banks and creation of money, and non-bank thrift institutions; describe interest rates in the financial system, money markets, consumer lending and borrowing; explain the businesses in the financial markets, central banking, the Federal Reserve and their effect on monetary policy and National Economic goals; describe the Treasury's activity in financial markets, as well as in state and local government. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4323 Individual Life and Health Insurance (HS 323): This is the first course in the CLU and ChFC programs providing coverage of products, tools, and techniques and is required in both CLU and ChFC. Upon completion of this course, students should be able to describe various types of insurance companies and the marketing systems used by each; explain to a consumer Term Life, Endowment, Whole Life, and Flexible-Premium Life; explain life insurance policy provisions, illustrations, reserves, surrender values, and gross premiums; explain adverse selection and reinsurance; discuss insurance regulation and current issues; explain individual annuities and analyze their costs, individual health, disability and long-term care, social insurance programs; apply the life insurance planning process; describe personal and business uses of life insurance. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3 -0) 3

INS 4324 Life Insurance Law (HS 324): Financial services professionals must understand the legal rights and obligations of the policy owner and the insurance company before and after the policy is issued. This course is required in CLU. Upon completion of this course, students should be able to recognize and discuss the legal environment of insurance; apply contracts and agency law; describe life insurance agents as employers; explain waiver and estoppel, policy formation; explain the legal effect of policy provisions, contract operations, property rights in life insurance, beneficiary designations and settlements, premiums and prematurity values, policy transfers and reinstatements, contract disputes, contract performance, health insurance, insurance advertising, privacy; and complete the HS 324 Exam. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4325 Group Benefits (HS 325): It is important that financial services professionals understand the benefits provisions and the advantages and limitations associated with group insurance as a method for meeting economic security needs. This course is required in CLU. Upon completion of this course, students should be able to recognize and discuss group insurance, the government environment for group insurance; identify the products and uses of group life insurance, group disability income insurance, group medical expense insurance, other group insurance benefits; describe the marketing of group insurance, group insurance pricing, alternative funding methods; explain other group insurance benefits; describe group plan design and cafeteria plans. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4326 Planning for Retirement Needs (HS 326): This course, which is required in the CLU program, emphasizes planning for retirement income and for maximum tax benefit for individuals, employees and business owners. Upon completion of this course, students should be able to describe the retirement field and aid the consumer in choosing the best-qualified plan; tailor qualified plans to fit the client's objectives; choose the proper funding instrument to fit the client's needs; describe plan installation, administration, and termination; describe non-qualified deferred compensation plans and when to use them; describe individual retirement planning; aid the client in determining post-retirement monetary needs; describe the various investments for retirement and the method and effect of distribution from retirement plans. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4328 Investments (HS 328): Effective financial planning requires that the investment be selected that meets personal objectives and is consistent with personal risk preference. This course is required in CLU and ChFC. Upon completion of this course, students should be able to describe the role and scope of investments; explain the effects of return and risk, securities markets and how transactions are made; list and use sources of investment information; develop investment strategies; describe short-term investments; use financial statements such as balance sheets, income and retained earnings statements and cash flow statements; describe common stock investments; perform security analysis, common stock valuation; describe technical analysis and efficient markets; explain the corporate and government bond market; describe hybrid securities such as preferred stock, convertible securities, rights, warrants, options and futures; identify and describe mutual funds and tangible investments; perform portfolio management; and apply

investment strategies and tactics. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4329 Wealth Accumulation Planning (HS 329): Upon completion of this course, which is required in ChFC, students should be able to explain and apply personal tax principles and planning; make investment decisions for tax advantages; describe limits to tax advantage; compare and explain investment vehicles such as: partnerships and corporations, corporate, trust and personal ownership, real estate, oil and gas, minerals, energy, and agriculture programs, equipment leasing, research and development, and miscellaneous programs; describe how to get out of a tax-advantaged investment; explain the proper considerations in choosing a tax-advantaged investment; apply tactical and strategic tax planning methods for wealth accumulation; set objectives for planning for accumulation; and describe the life cycle of financial planning. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4330 Fundamentals of Estate Planning I (HS 330): The estate and gift planning process includes an understanding of the tax consequences of various estate planning devices. Upon completion of this course, which is required in CLU and ChFC, students should be able to explain the estate planning process; describe the various forms of property ownership, lifetime transfers, trusts, trustees and other fiduciaries, powers of appointment, transfers at death; explain the estate administration process; explain and apply federal gift tax laws; apply the federal estate tax laws to determine the gross estate, valuation of assets, basis, deductions from gross estate, the marital deduction and charitable deductions; compute and explain payment of federal estate taxes, income taxes of estates and trusts; describe and list other estate planning considerations. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4331 Planning for Business Owners and Professionals (HS 331): Upon completion of this course, which is an elective in CLU and ChFC, students should be able to identify and explain common business problems and planning objectives; differentiate between unincorporated business enterprises and corporations; describe compensation planning; identify and discuss problems in business continuation; explain needs for and types of buy-sell agreements for unincorporated and incorporated businesses, and stock redemption plans; explain the effect of lifetime dispositions of a business interest; plan the transfer of the family business; value a closely-held business; discuss the needs for and methods of planning for the disability of business owners and professionals; and explain the methods of managing risk in a closely-held business. Students must register with the American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4332 Financial Planning Applications (HS 332): This is a case study course aimed at both integrating the various techniques, tools, and products covered in earlier courses in the chartered financial consultant program with the financial planning process outlined in INS 4320 (HS 320) and giving students practical application in analyzing and solving realistic financial problems of individuals and business. This course is required in ChFC. Students who complete this course should be able to utilize the financial planning process, principles, and strategies; gather and organize needed client data; develop an outline for a client's plan; and, using case studies, develop a plan for the middle- or upper-management executive or professional, young family, corporate executive, self-employed professional, small family-owned business and its owner, business tax planning for the successful closely-held corporation and its owners. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4334 Fundamentals of Estate Planning II (HS 334): A continuation of INS 4330, this course is an elective in both CLU and ChFC. Upon completion of this course, students should be able to use life insurance in estate planning; develop the gross estate for Federal estate tax purposes; describe and utilize the valuation principles used in the estate planning process, estate reduction concepts, use of charitable contributions as an estate planning technique, and planning opportunities stemming from the marital relationship; discuss the taxation of trusts; give an overview of the Crummey Doctrine; describe the estate planning implications of the employer/employee relationship; discuss the estate planning considerations involving oil and gas interests and personal residence; explain the procedural principles of estate planning (including a case study). Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4336 Financial Decision Making at Retirement (HS 336) This course shows the very important role of professionals in making proper retirement decisions and is required in ChFC. Upon completion of this course, students should be able to describe the importance and role of the professional; estimate retirement income and capitals needs of the client; plan housing and health care needs; value sources of retirement income, including social security benefits, disbursements from qualified retirement plans and IRAs, disbursements from non-qualified plans and deferred compensation plans; plan for distributions from retirement plans; apply the minimum distribution and early-withdrawal installment rules, and the 15% excise tax; develop investment plans and asset allocation plans, and succession plans; describe the other retirement/estate planning considerations. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

INS 4337 Business Taxation and Planning (HS 337): This course is a study of taxation and funding considerations of businesses and is an elective in both CLU and ChFC. Upon completion of this course, students should be able to discuss the federal tax aspects of corporations, methods of capitalizing a new corporation, and special problems with corporations; explain S corporations and their advantages and disadvantages; describe dividends, redemptions and liquidations; apply tax and funding requirements to the purchase and sale of a corporate business; explain the federal tax aspects of partnerships; discuss the uses and funding of buy-sell agreements and their alternatives using life insurance. Students must register with The American College to sit for the national exam. Students should order books before the first class. (3-0) 3

***INS 4354 Professional Ethics:** Upon completion of this course, students should be able to identify and list the elements of the crimes most often committed by persons in the

insurance industry, explain the insurance laws affecting agents' behavior, as well as understand the meaning of insurance being a "service industry." Students should also be able to identify ethical and non-ethical behavior from various case studies given.
*Prerequisite: Completion of at least 45 hours in this program (2-2) 3

***INS 4395 General Insurance-Part II—Life and Health:** This is a continuation of INS 4294. When completed with INS 4294, this course qualifies students to take the North Carolina licensing exam required for Life, Accident and Health Insurance agents. Upon completion of this course, students should be able to discuss the exposures, types, policy provisions, and practices of life, accident and health insurance; interpret the regulations and laws specifically applying to life, health and accident agents; describe the various social insurance plans.
*Prerequisite: INS 4294 (3-0) 3

***INS 4396 General Insurance-Part III—Property and Casualty:** This is a continuation of INS 4294. When completed with INS 4294, this course qualifies students to take the North Carolina licensing exam required for Fire and Casualty agents. Upon completion of this course, students should be able to discuss and explain the various lines for fire and casualty insurance such as automobile, marine, inland marine, general liability, worker's compensation, commercial fire, home owner's, crime, and umbrellas. Students should also be able to explain the functions of government-sponsored insurance such as FAIR plans and BEACH plans, interpret the regulations and laws specifically applying to fire and casualty agents, discuss the forms for the various types of insurance.
*Prerequisite: INS 4294 (3-0) 3

INS 4400 Disability Income Training Course (LUTC): This is one of a series of preparatory courses for the Life Underwriting Training Course Fellow (LUTCF). Upon completion of this course, students should have the skills to enter the disability income market with knowledge and confidence. They should be able to describe the market opportunities, how to get extra sales, use field-proven methods to close sales of life and disability income, describe the business coverages and advantages, and turn objections around. Case studies will be used. Upon satisfactory completion of this course, students will earn 60 Study and Practice Equivalents toward the LUTCF. (4-0) 4

INS 4401 NASD Series 7 Review: This course is designed to prepare individuals to take the NASD Series 7 Exam. Upon completion of this course, students should be able to describe the various equity markets; explain the types of equities and how they differ, calculate conversion parity, describe the tax advantages of various investments, read a consolidated tape, describe how orders work, explain how puts and calls work, discuss the rules applying to client accounts, explain how margins work and how to calculate transactions in margin accounts, define short sales, discuss the economics that affect the equities market, complete a security analysis, read the financial news, calculate financial ratios, describe the taxation of securities transactions, read and understand applicable federal law and NASD regulations. Students should register for this exam before registering for this course. (4-0) 4

INS 4404 Fundamentals of Financial Services (LUTC): This is another in the series of Life Underwriters Training Courses. Upon completion of this course, students should be able to identify financial planning prospects; develop prospecting and approach techniques; understand legal requirements and their responsibility to clients, and of clients to agents; define and understand the agent's role; characterize the elements of a balanced financial plan; identify the impact of taxes on investment alternatives; use the IRS Form 1040 as a sales and learning tool; determine the best use of IRA/Keogh Thrift/403B trusts; incorporate alternative financial tools; read and interpret financial news and statements; identify impediments to plan implementation; utilize the concept of the financial planning team; use the course's one-page visual illustrations and sales tracks. Satisfactory completion of this course earns 60 study and practice equivalents toward the LUTCF. (4-0) 4

INS 4405 Professional Growth (LUTC): Another in the series of preparatory courses for the Life Underwriting Training Course Fellow (LUTCF), this course is designed especially for the established agent. Upon completion of this course, students should be able to develop a technique book; gain a fresh perspective into business activities; set realistic and attainable goals; describe the impact that insurance needs can have upon young families, and of dual careers on other stages in the client's life cycle; be able to deal with stress and rejection; develop methods to select and expand the agent's market; describe and aid clients in selecting medical products; examine ideas and techniques to help the agent better manage business time; review the insurance needs of aging adults and help them make proper selections of products. Upon satisfactory completion of this course, students will earn 60 study and practice equivalents toward the LUTCF. (4-0) 4

INS 4406 Multiline Skills (LUTC): This is another in the series of preparatory courses for the Life Underwriting Training Course Fellow (LUTCF) and is designed for agents who market property and casualty insurance. Upon completion of this course, students should be able to identify prospects for multiline products; outline client's potential losses; characterize the types of available property and casualty coverage; identify the impact of the law upon the agent's activities; assist clients in identifying their insurance needs; evaluate the impact that premium rates and claim determinations may have upon clients; analyze various personal policies; learn transitions from property and casualty sales to life, disability and other insurance products; make recommendations to prospects; summarize government involvement with personal lines; recognize tax implications; analyze loss ratios; and understand the agent's responsibilities as an agent and advisor. Upon satisfactory completion of this course, students will earn 60 study and practice equivalents toward the LUTCF. (4-0) 4

INS 4408 Personal Estate and Retirement Planning (LUTC): This is another in the series of Life Underwriters Training Courses. Upon completion of this course, students should be able to describe estate taxes, explain capital transfer and personal taxation concepts, describe today's insurance products and the universal approaches to personal planning, complete a personal analysis to do estate and retirement planning, use concepts for estate creation and conservation, describe the effects of family gift giving, prospect, describe the effects of charitable giving, describe the estate protection from lifetime vicissitudes, help the policy owner

plan for estate conservation for the survivor and future generations by proper selection of dividend and settlement options, and complete case studies. Upon satisfactory completion of this course, students will earn 60 Study and Practice Equivalents toward the LUTCF. (4-0) 4

INS 4409 Advanced Business Planning (LUTC): This is another in the series of Life Underwriters Training Courses. Upon sucessful completion of this course, students should be able to describe the forms of businesses in the marketplace and the tax consequences of profit distribution; describe key person insurance; read and understand financial statements; explain financial control and the use of split dollar insurance; describe all aspects of qualified plans and non-qualified deferred compensation; describe the psychology of group life sales; contrast group health insurance, multiple employer trusts, cafeteria plans and business health insurance; use computers in personal financial estate planning and in business valuation; explain methods of funding buy-sell agreements and the effects of switching plans; and assist the client in retaining the family business. Upon satisfactory completion of this course, students will earn 60 hours Study and Practice Equivalents toward the LUTCF. Students must register through the Charlotte Association of Life Underwriters to take this course. (4-0) 4

INS 4701 Personal Insurance Training Course (LUTC): This is another in the series of Life Underwriters Training Courses. Upon completion of this course, students should have obtained the knowledge to make sales and develop confidence. Further, they should be able to describe what makes a successful agent in the life industry, apply the total needs approach and dominant needs approach to selling, describe the value of life insurance ownership, use the positive ingredients of the sale, and compare new products. Satisfactory completion of this course earns 120 Study and Practice Equivalents toward the LUTCF. (7-0) 7

INS 4702 Business Insurance Training Course (LUTC): This is another in the series of Life Underwriting Training Courses. Upon completion of this course, students should be able to pinpoint and solve problems of business owners and key executives, describe how life insurance satisfies both business purposes and estate planning needs, be able to communicate effectively and confidently with business executives. Topics covered include business markets, ownership, death and money problems, taxes and tax-related sales, key executives, business continuation, disposition of property and sale tracks. Satisfactory completion of this course earns 120 Study and Practice Equivalents toward the LUTCF. (7-0) 7

INT – International Business

INT 3300 Introduction to International Business: This course is an introduction to the environment, concepts, and basic differences involved in international business. Upon completion of this course, students should be able to describe the international business climate (first, second, and third world); describe the forms of foreign involvement; explain international trade theory; explain governmental influences on trade and the strategies associated with them; name and describe the major organizations affecting international trade policy; explain the role of multinational corporations; and describe the difference involved in control, personnel management, and marketing in the international organization. (3-0) 3

***INT 3305 International Marketing:** Upon completion of this course, students should be able to describe the marketing opportunities in the international environment; explain methods of acquiring marketing information in other countries; describe the different methods of market entry and market strategy; describe methods of advertising and sales in the international environment; describe the different channels of distribution and methods of physical distribution; describe the pricing strategies for products in the international market and the effects of countertrade on this strategy; and explain the steps in formulating an overall product policy for the international marketplace.
*Prerequisite: INT 3300 (3-0) 3

***INT 3306 International Business Practices:** Upon completion of this course, students should be able to describe the forms of international business ownership; describe the organizational structure of foreign companies and the underlying concepts of power and authority; describe the effects of culture on business; describe the forms of verbal and non-verbal communication and explain the methods of researching the difference and techniques for adapting to the differences; explain the styles of negotiation in the international area and the methods of successfully responding to these styles; discuss ethical issues involved in international business; and develop a plan for doing business in a foreign country.
*Prerequisite: INT 3300 (3-0) 3

***INT 3307 Economics of International Trade:** Upon completion of this course, students should be able to describe the international balance of payments; explain foreign exchange rates and their determination; describe the concepts of forward exchange and hedging against exchange risks; describe the Bretton Woods International Monetary System and its collapse; explain the arguments for and against free trade and protectionism; describe tariff and non-tariff trade barriers and explain the advantages and disadvantages of each; and discuss the forces and criteria for the development of a new international economic order.
*Prerequisite: INT 3300. (3-0) 3

***INT 4225 Cooperative Work Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-op Office (0-20) 2

***INT 4226 Cooperative Work Experience II:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with

such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-op Office/INT 4226 has a prerequisite of INT 4225. (0-20) 2

***INT 4307 International Business Law:** Upon completion of this course, students should be able to describe the different theories of law and their effect on the concepts of contracts, product liability, intellectual property and agency; describe methods for resolving disputes in international transactions; describe the major organizations involved in trade control; describe the operation of the General Agreement on Trade and Tariffs; and explain the effects of major U.S. law affecting international trade.
*Prerequisite: BUS 2304, INT 3300 (3-0) 3

***INT 4425 Travel Study Abroad:** This course is designed for students to apply their language and theoretical skills in an appropriate international business setting during a guided travel study of international business functions in a foreign country. Upon completion of this course, students should be able to demonstrate strengthened skills in their language of choice; perform with greater competence and confidence in the international workplace; perform successfully the objectives outlined in the training plan; and develop a greater understanding of cultural patterns and business practices in the region of study.
*Prerequisite: INT 3300 (3-0) 3

IPP – Interpreter Training

***IPP 1503 Translation and Intercultural Communication:** Upon completion of this course, students should be able to identify and describe the components of a cultural schema; identify and discuss the differences between the schema of American Deaf and hearing persons; discuss the differences in rhetoric between spoken English and ASL; discuss the role of the interpreter as cross-cultural mediators and techniques which can be utilized to achieve the greatest level of equivalency when interpreting or translating; and analyze, discuss, and translate basic ASL and English texts.
*Prerequisite: IPP 1602 (5-0-0-0) 5

IPP 1601 Sign Language I: Upon completion of this course, students should be able to identify and use 300-375 signs; construct simple sentences in American Sign Language demonstrating the proper placement of interrogatives, negatives, time indicators, operatives and topics; sign sentences applying grammatical features of ASL; ask and respond to questions about one's name, schooling, residence, family, and physical activities; define deafness; discuss psychological aspects of deafness; discuss various communication methods used to communicate with hearing impaired persons; and compare and contrast educational methods for teaching hearing impaired children. (5-2-0-0) 6

***IPP 1602 Sign Language II:** Upon completion of this course, students should be able to identify and use 500-750 signs; construct complex sentences in ASL demonstrating proper ASL syntax; sign complex sentences applying grammatical features of ASL; ask for and give directions; describe persons and clothing; give commands; make and respond to requests; explain relationships; discuss occupations; explain routines; discuss deaf culture; and identify things which support and define deaf culture.
*Prerequisite: IPP 1601 (5-2-0-0) 6

IPP 3301 Interpretation: An Overview: Upon completion of this course, students should be able to compare and contrast models of interpretation and models of cognitive processes associated with interpretation; define specialized jargon used within the field; identify and discuss protocol associated with interpreting in different settings; apply ethical standards to a variety of work situations; and identify and discuss the types of employment opportunities for interpreters and appropriate working conditions related to each. (3-0-0-0) 3

IPP 3302 Critical Thinking and Analytical Skills for Interpreters: Upon completion of this course, students should be able to identify and discuss the cognitive processes associated with interpreting; develop skills in listening and retaining a sequence of information, analyzing a variety of messages for meaning and intent, articulating the relation of units of information to each other and predicting; develop skills in long-term and short-term memory retention, processing visual and auditory stimuli, and identifying and articulating the logic and reasoning associated with different texts; and increase their ability to do cognitive multi-tasking functions. (1-4-0-0) 3

***IPP 3314 Introduction to Discourse Analysis:** Upon completion of this course, students should be able to identify and discuss the different types and functions of discourse; compare low- and high-context usage, linguistic structure and cultural differences within the discourse style of ASL and English texts; analyze English and ASL texts at the lexical, syntactical, phrasal and discourse level and identify specifics regarding the specialized or uncommon vocabulary usage, register, main point, supporting ideas, logic and organization and cultural implications of each text; and identify and describe the different discourse patterns as they occur in interview, group and lecture situations.
*Prerequisite: IPP 1602 (3-0-0-0) 3

IPP 3324 Conversational Sign Language I: Upon completion of this course, students should be able to converse on a one-to-one basis with a hearing impaired individual in a work or social environment, demonstrate a basic knowledge of techniques which make communicating with a hearing impaired person more effective, and demonstrate a practical sign vocabulary of core and specialized signs of between 300-350 words. (3-0-0-3) 3

***IPP 3325 Conversational Sign Language II:** Upon completion of this course, students should be able to converse with a hearing impaired individual in a work, school, home, business, and social environment; demonstrate an advanced knowledge of communication techniques; demonstrate a practical sign vocabulary of core and specialized signs of between 500-750 words; and demonstrate receptive and expressive fingerspelling and numbers skills.
*Prerequisite: IPP 3324 (3-0-0-0) 3

IPP 3501 Comparative Cultures: American Deaf and Mainstream: Upon completion of this course, students should be able to define culture; identify observable attributes of deaf and mainstream (hearing) Americans; identify and discuss the social, political, educational, vocational, and his-

torical issues faced by deaf Americans and mainstream Americans; describe the sociolinguistic continuum of language use within the deaf community; describe the five stages of enculturation citing examples of each; identify cultural conflicts between deaf and mainstream Americans; identify strategies for anticipating and managing cross-cultural conflicts; compare the value systems of deaf and mainstream Americans; discuss how prejudices are reflected and their impact on communication interactions. (5-0-0-0) 5

***IPP 3514 Introduction to Consecutive Interpretation:** Upon completion of this course, students should be able to generate an equivalent message from English into American Sign Language and from American Sign Language into English in a variety of texts occurring in interviews originating in social service, employment, education and personal business settings; and discuss and apply the principles of protocol of interpreting in these settings.
*Prerequisite: IPP 3301, IPP 3302, IPP 3314, IPP 1503 (2-6-0-0) 5

***IPP 3515 Consecutive Interpretation II:** Upon completion of this course, students should be able to generate an equivalent message from English into American Sign Language and from American Sign Language into English in a variety of texts occurring in legal (non-courtroom), medical professional meetings and small conference settings; and discuss and apply the principles of protocol of interpreting in these settings.
*Prerequisite: IPP 3514 (2-6-0-0) 5

***IPP 3516 Introduction to Simultaneous Interpretation:** Upon completion of this course, students should be able to generate an equivalent message from English into American Sign Language and from American Sign Language into English in a variety of texts occurring in expository form originating in group meetings and conference settings; and discuss and apply the principle of protocol of interpreting in these settings.
*Prerequisite: IPP 3515 (2-6-0-0) 5

***IPP 3517 Simultaneous Interpretation II:** Upon completion of this course, the student should be able to demonstrate the ability to analyze and interpret a variety of basic expository texts which serve an informational, hortatory and procedural function; discuss and apply the principles of protocol of interpreting to a variety of situations which occur during basic expository presentations; identify the register being used in a variety of expository texts; apply the appropriate linguistic or cultural adjustments required to achieve an equivalent register in the interpretation.
*Prerequisite: IPP 3516 (2-6-0-0) 5

IPP 4100 ASL Numbers and Fingerspelling: Upon completion of this course, the student should demonstrate increased ability to accurately produce and comprehend ASL numbers and fingerspelling, and be able to identify the appropriate semantic category of usage. (0-2-0-0) 1

IPP 4300 Hearing and Deafness: Upon completion of this course, the student should be able to relate the nature and perception of sound to the sense of hearing, identify the major parts of the ear and the function of each part, classify hearing losses according to auditory dysfunctioning, describe some common causes of deafness, identify various medical/surgical treatments of hearing losses, identify the roles of the various professionals and paraprofessionals involved in the diagnosis and treatment of hearing losses. (3-0-0-0) 3

***IPP 4308 Interpreting Practicum:** Upon completion of this course, the student should be able to discuss thoroughly the work experience in the student's practicum placement; discuss the procedures and service techniques of the agency where the student is placed; complete an in-depth research project as a major contribution to the Interpreter Training program selected in consultation with the instructor; and maintain twelve hours of internship per week, documented in a weekly log reflecting the student's experience in the practicum.
*Prerequisite: IPP 3516 (1-0-20-0) 3

***IPP 4310 Overview of Educational Interpreting Within the U.S. Educational System:** Upon completion of this course, the student should be able to give a brief history of public education in the United States, discussing the purpose of education and the roles of public schools; give a brief history of educational interpreting in the U.S., discussing the legislation related to the education of deaf children and the hiring of interpreters; discuss recent trends in the education of deaf children; list and describe typical interpreting and noninterpreting roles for educational interpreters; discuss current employment practices of interpreters; and discuss current professional issues in the field.
*Prerequisite: IPP 3301, IPP 3314, IPP 1503 (3-0-0-0) 3

ITA – Italian

ITA 1600 Elementary Italian I: Upon completion of this course, students will have a knowledge of some basic elements of Italian in conversation, reading, and writing. Filmstrips and tapes are used in classroom and laboratory instruction. (5-2) 6

***ITA 1601 Elementary Italian II:** This course is a continuation of ITA 1600. Students will learn basic elements of conversation, reading, and writing.
*Prerequisite: ITA 1600 within previous two quarters or consent of Department Head. (5-2) 6

***ITA 2600 Intermediate Italian I:** Students will use the native patterns of speech learned in ITA 1601 and will be able to recognize and use the subjunctive in the present, past, and future tenses. They will also be able to recognize and use the conditional perfect, the passato remoto, and the passive voice. They will read and be able to explain short essays in Italian describing the political, theatrical, musical, and technical life of modern Italy.
*Prerequisite: ITA 1601 or equivalent. (5-2) 6

LEP – Limited English Proficiency. See page 43.

Law Enforcement Technology – See PSC

LEX – Paralegal Technology

LEX 3300 Case Analysis and Reasoning I: This is the first course in a two-course sequence on the fundamentals of case analysis and case briefing. Upon completion of this course,

students should be able to read and interpret state and federal court decisions involving common law, statutory law and constitutional law; describe the structure of the state and federal court systems; write a case brief and analogize fact situations. (3-0) 3

***LEX 3301 Case Analysis and Reasoning II:** This is the second course in a two-course sequence on the fundamentals of case analysis and case briefing. Upon completion of this course, students should be able to synthesize court decisions, analogize and distinguish court cases, and write a case brief suitable for use by an attorney.
*Prerequisite: LEX 3300 and admission to the Paralegal Technology program (3-0) 3

LEX 3303 Legal Research I: This is the first course in a two-course sequence that introduces students to the techniques of legal research. Upon completion of this course, students should be able to locate cases in the major federal, regional, and state reporters; cite cases using the latest edition of A Uniform System of Citation; perform research by using federal, regional and state digests and reporters; and update their research by using Shepard's Citations. (3-0) 3

***LEX 3304 Legal Research II:** This is the second course in a two-course sequence that introduces students to the techniques of legal research. Upon completion of this course, students should be able to perform basic legal research in American Law Reports, the North Carolina General Statutes, the United States Code Annotated, the United States Code of Congressional and Administrative News, the Code of Federal Regulations, and Words and Phrases.
*Prerequisite: LEX 3303 and a grade of C or better in LEX 3300 and LEX 3310 (3-0) 3

LEX 3306 Administrative Law: Upon completion of this course, students should be able to understand and explain agency practices and procedures at both the federal and state levels, prepare documents, comply with rules of evidence and appellate procedure at and beyond the agency level, and be prepared to participate in agency practice with minimal supervision. (3-0) 3

LEX 3310 Introduction to Civil Procedure: This course introduces students to the rules of civil procedure through the use of the United States and North Carolina constitutions and the applicable statutes. Upon completion of this course, students should be able to describe and analyze the process of a civil trial as governed by the state and federal rules of civil procedure. (3-0) 3

***LEX 3320 Evidence:** This course examines the principal rules of evidence applicable to civil trials, their modern application and the statutes affecting the field. Upon completion of this course, students should be able to distinguish between direct and cross examination, explain the methods and limits of impeachment, utilize real and demonstrative evidence, identify the proper introduction of opinion evidence, discuss the burden of proof, recognize hearsay and its exceptions, and explain the importance of preserving the record for appeal.
*Prerequisite: LEX 3300, LEX 3301 (3-0) 3

LEX 4280 Legal Ethics: This course analyzes the ethics of attorneys and their support staff. Upon completion of this course, students should be able to explain the N.C. Unauthorized Practice of Law Statutes and how they apply to a paralegal, understand the North Carolina Rules of Professional Conduct, identify authority that can and cannot be delegated by the attorney, and discuss what constitutes proper supervision of a paralegal. (2-0) 2

***LEX 4290 Cooperative Work Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of department and Co-op Office (0-20) 2

***LEX 4291 Cooperative Work Experience II:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of department and Co-op Office, and LEX 4290 (0-20) 2

LEX 4300 Domestic Relations Law: This course examines the various laws of North Carolina that affect marriage and family relationships, such as statutory grounds for divorce, defenses to divorce, elements of separation by court order or by mutual consent and custody of children. Upon completion of this course, students should be able to discuss the various applicable statutes; interview the client and potential witnesses; and aid the attorney in drafting of divorce, custody, and support pleadings, separation agreements, consent judgments, court orders, and documents for adoption. (3-0) 3

LEX 4313 Collections and Bankruptcy: This course emphasizes a study of the laws and procedures for handling collections and bankruptcies for clients. Upon completion of this course, students should be able to aid the attorney in drafting necessary form letters, interviewing the client, investigating the fact situation, and completing the package of appropriate bankruptcy documents. (3-0) 3

***LEX 4314 Wills, Trusts and Probate:** This course emphasizes procedures concerning distribution of property by trusts, wills, and intestacy. Upon completion of this course, students should be able to interview clients, use a wills manual, and aid the attorney in drafting wills and trusts, as well as complete the documents necessary to administer an estate.
*Prerequisite: LEX 3301, LEX 3303, LEX 3304, and a grade of C or better in LEX 3300 and LEX 3310 (3-0) 3

***LEX 4321 Tort Law:** This course provides an introduction to the fundamental principles of the law on torts. Upon completion of this course, students should be able to recognize the most common intentional torts and negligence, and evaluate the type of tort defenses available to each.
*Prerequisite: LEX 3300, LEX 3301, LEX 3310 (3-0) 3

***LEX 4322 Corporate Law:** This course involves study of the laws of North Carolina concerning sole proprietorships, general partnerships, limited partnerships and corporations. Upon completion of this course, students should be able to explain the basic advantages and disadvantages of each of the primary forms of business organization, prepare basic partnership and corporate documents, and know how to file corporate and partnership documents properly.
*Prerequisite: LEX 3300, LEX 3301, LEX 3310 (3-0) 3

***LEX 4323 Legal Writing I:** This course is a continuation of LEX 3303 and LEX 3304 and is the first course in a two-course sequence. This course is designed to train students to express the results of their research and analysis of legal problems clearly and effectively. Upon completion of this course, students should be able to apply the principles of expository prose and the rhetoric of persuasion to the kind of writing required in preparing case briefs, client letters and trial memoranda.
*Prerequisite: LEX 3300, LEX 3301, LEX 3310, LEX 3320, ENG 1504, ENG 1505 or ENG 3405, and a grade of C or better in LEX 3303 and LEX 3304 (3-0) 3

***LEX 4324 Legal Writing II:** This is the second course in a two-course sequence. Upon completion of this course, students should be able to prepare both internal and external memoranda, briefs for pre-trial and post-trial motions, opinion letters, and such other types of written work as an attorney might require of a paralegal.
*Prerequisite: LEX 4323 and a grade of C or better in LEX 3303 and LEX 3304 (3-0) 3

***LEX 4332 Trial Preparation and Procedures:** This course emphasizes the application of the rules of civil procedure and evidence in the trial setting. Students who complete this course should be able to aid the attorney in the drafting of the various pleadings, motions, orders, interrogatories and affidavits that are the ordinary components of trial actions and help prepare the case file and exhibits for trial.
*Prerequisite: LEX 3300, LEX 3301, LEX 3303, LEX 3304, LEX 3310, LEX 3320 (3-0) 3

LEX 4340 Qualified Pension Plans: This course surveys the major types of qualified plans, required plan provisions, participation and vesting requirements, processes to follow in adopting a plan, funding of a plan, fiduciary responsibilities, reporting and disclosure under ERISA and responsibilities of the Pension Benefit Guaranty Corporation. Upon completion of this course, students should be familiar with different types of qualified retirement plans, plan provisions under ERISA and the IRS, duties and responsibilities of parties associated with qualified plans, and the administrative forms and procedures in the pension area. (3-0) 3

LEX 4341 Workers' Compensation Law: This course is designed to familiarize students with the methods for initiating and handling a workers' compensation claim from the initial filing of the claim to the hearing before the Industrial Commission as set forth in Chapter 97 of the North Carolina General Statutes. Upon completion of this course, students should be able to aid an attorney in completing documents essential to perfect a claim. (3-0) 3

***LEX 4620 Real Property Law and Title Abstracting:** This course examines the laws of real property and common types of real estate transactions and conveyances. Upon completion of the course, students should know the major forms of real property ownership; be familiar with lien law; be able to aid the attorney in the drafting of deeds, deeds of trust, mortgages, and other documents necessary to close real property transactions; and be able to aid the attorney in completing residential real estate loan packages.
*Prerequisite: LEX 3300, LEX 3301, LEX 3303, LEX 3304, LEX 3310 (6-0) 6

MAC – Machinist

MAC 3200 Precision Instrument Reading: Upon completion of this course, students should be able to solve problems related to the machinists' field involving fractions and decimals; read basic 3-view projections; properly care for, read, and use the following precision measuring instruments: steel rule, vernier caliper, vernier height gauge, micrometer, dial indicator, gauge blocks, and fixed gauges. (2-0) 2

MAC 3201 Machine Operations for Engineering Technicians: Upon completion of this course, students should be able to calculate speeds and feeds for lathes, milling machines, and drill presses; lay out, drill, and tap holes to specified tolerances; describe the nomenclature of chucking and holding devices, cutting tools, and operating procedures for drill presses, lathes, milling machines, and grinding machines; set up and operate lathes and milling machines. (1-3) 2

MAC 3203 Blueprint Reading for Machinists I: Upon completion of this course, students should be able to sketch multi-view drawings; interpret conventional lines and dimensions; interpret notes, thread notations, and welding symbols; make pictorial sketches; interpret basic drawings. (1-2) 2

***MAC 3204 Blueprint Reading for Machinists II:** Upon completion of this course, students should be able to read and interpret industrial prints of a more complex nature; interpret geometric tolerance symbols and true position dimensioning; and sketch details and assemblies.
*Prerequisite: MAC 3203 or permission of the Machinist Program Director (1-2) 2

***MAC 3205 Coordinate Measuring Machine Applications:** Upon completion of this course, students should be able to describe the uses and functions of the coordinate measuring machine; program the machine; list and use proper command functions for measuring; edit programs and make changes when needed; measure parts for taper, perpendicularity, concentricity, roundness, and flatness.
*Prerequisite: MAC 3200 or permission of the Machinist Program Director (1-2) 2

MAC 3296 Machinist Co-Op I: Upon completion of this course, students should be able to apply the skills acquired in machinist courses to an actual working situation in the machinist industry, produce a work log sheet containing the types and number of job tasks completed in the industry during the cooperative work experience, and demonstrate exemplary attendance and work habits. (0-20) 2

***MAC 3297 Machinist Co-Op II:** This is a continuation of MAC 5296 Machinist Co-Op I.
*Prerequisite: MAC 3296 (0-20) 2

MAC 3300 Fundamentals of Computer Numerical Control Programming: Upon completion of this course, students should be able to describe the principles involved in the

operation of NC and CNC machines; translate information from prints into X and Z coordinate terms; compose a point-to-point positioning manuscript; compose a sequential manuscript for a two-axis CNC lathe; solve programming problems involving tool paths and pitch circles; position, adjust, set feed rates, operate, and correct performances of a CNC training lathe during program run. (3-0) 3

***MAC 3303 Computer Numerical Control Machining Center Operations:** Upon completion of this course, students should be able to use proper safety procedures, set up tooling for the machining center, load programs and machine complex parts, use precision instruments, use proper insert tooling and state their uses in machining different types of materials, operate the main control panel and be able to enter MDI programs into the computer memory, establish point of origin and locate fixture properly, and prove accuracy of program using block-by-block procedure.
*Prerequisite: MAC 3200, MAC 3311, MAC 3422, or permission of the Machinist Program Director (2-3) 3

***MAC 3304 Computer Numerical Control Programming — Turning Center:** Upon completion of this course, students should be able to describe the proper use and uses of indexable qualified tooling; determine proper speeds and feeds; describe the "G" codes and their applications for the turning center; manually set up and operate the turning center for CNC programs; write programs for straight and taper turning, turn radii and chamfers, O.D. and I.D. threading; enter programs into the Yasnac and Okuma controllers; write programs for lathe capabilities; organize and edit programs.
*Prerequisite: MAC 3300, MAC 3200, MAC 3311, MAC 3422, or permission of the Machinist Program Director (2-2) 3

***MAC 3305 Computer Numerical Control Programming—Machining Center:** Upon completion of this course, students should be able to list codes and describe machine control words; write manuscript using canned drilling cycles, straight line linear interpolation, circular interpolation, close tolerance boring, and threading cycles; determine correct speeds and feeds; load programs into CNC controls; optimize and edit programs; and prepare tapes to plot, prove, edit and produce parts on a machining center.
*Prerequisite: MAC 3300, MAC 3200, MAC 3311, MAC 3422, or permission of the Machinist Program Director (2-2) 3

***MAC 3306 Computer Numerical Control Turning Center Operations:** Upon completion of this course, students should be able to use proper safety procedures, set up tooling for the turning center, load programs and machine complex parts, use precision instruments, use proper carbide insert tooling and state their uses in machining different types of materials, operate main control panel and be able to MDI programs into computer memory, load programs by tape to transmit programs from programming system to machine and back to terminal for storage, make tool offsets and set tooling to programmed point of origin, and prove accuracy of new program by using block-by-block procedure.
*Prerequisite: MAC 3200, MAC 3311, MAC 3422 (2-3) 3

***MAC 3307 Machine Tool Applications:** Upon completion of this course, students should have completed assigned projects using skills learned in prerequisite courses, including the following: planning work for correct machining and ease of operation, using machine tools and hand tools in a proper and safe manner, using proper work habits.
*Prerequisite: MAC 3311, MAC 3313, MAC 3422, MAC 3424 (0-9) 3

***MAC 3311 Basic Lathe Operations:** Upon completion of this course, students should be able to calculate the correct RPM's; state the reasons for correct speeds and feeds, and select the proper speeds and feeds for assigned projects; use proper work holding devices; select proper lathe tools; calculate and identify standard tapers; determine proper thread depths; perform knurling, threading (external), boring, and tapering; use safe and proper techniques in all procedures.
*Corequisite: MAC 3200 (1-6) 3

***MAC 3312 Computer Numerical Control Graphics Programming for Engineering Technicians:** Upon completion of this course, students will be able to list codes and describe machine control words; write a CNC manuscript using canned drilling cycles, straight line linear interpolation, circular interpolation, boring and threading cycles; develop a complete job plan using CNC graphics software; transfer (DXF) files to a graphics CNC programming system; generate CNC machine code and tool path; download machine code to the CNC machine; have a basic understanding of the set up and operation of the computer numerical control machine; produce a part to the drawing specifications.
*Prerequisite: MAC 3201 or permission of the Machinist Program Director (2-2) 3

***MAC 3313 Layout, Hand Tool, and Drill Press Procedures:** Upon completion of this course, students should be able to identify different types of drill bits and taps, and state the purpose of each; properly use hand tools normally used in machine shop work; use layout tools with prescribed accuracy; calculate correct drilling speeds; operate the drill press to drill, ream, countersink, counterbore, machine tap; and lay out and drill multiple holes.
*Corequisite: MAC 3200 (1-6) 3

***MAC 3315 General Machining and Maintenance:** Upon completion of this course, students should be able to repair broken and/or worn machine parts; produce left-hand and double-lead threads, both internal and external; calculate proper depths; use thread wires for measuring depths of threads; produce concave and convex radii using the rotary table; produce typical machine parts; and complete industrial grade projects.
*Prerequisite: MAC 3311, MAC 3313, MAC 3422, MAC 3424 (1-6) 3

***MAC 3320 Calculations for Machinists II:** Upon completion of this course, students should be able to discuss angular measurement in relation to blueprints and shop drawings, solve for unknown dimensions and angles using right-angle trigonometry and symmetry, explain the practical application in the machinist trade of the Pythagorean Theorem, interpolate trigonometric functions from a table of such functions, use a sine bar and gauge blocks to determine unknown measurements or angles, solve for unknowns using the law of sines and the law of cosines, and apply angular measurement and right angle trigonometry to shop calculations.
*Prerequisite: MAC 3401 (3-0) 3

MAC 3401 Basic Calculations for Machinists: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and

division to problems in the machinist field; find direct and indirect ratios and proportions; read a scale and micrometer accurately; apply geometric formulas toward thread calculations; manipulate fractional and decimal numbers; perform area and volume calculations; use angular and geometric measurements in problem solving; apply simple algebraic equations to work problems; discuss measurement using the metric system as well as the English system. (4-0) 4

***MAC 3422 Basic Milling Operations:** Upon completion of this course, students should be able to calculate proper speed and feed rate for milling cutters, and state the importance of correct speed and feed selection; and demonstrate proper and safe techniques with prescribed accuracy in face milling, shoulder milling, fly cutting, and horizontal plain milling.
*Corequisite: MAC 3200 (2-6) 4

***MAC 3424 Grinding Machine Operations:** Upon completion of this course, students should be able to describe grinding machine theory and practice, make proper abrasive selections, select appropriate speeds, demonstrate proper and safe techniques in operating with prescribed accuracy the horizontal surface grinder and cylindrical grinder.
*Prerequisite: MAC 3311, MAC 3422 (2-6) 4

***MAC 4310 Computer Numerical Control Programming Applications:** Upon completion of this course, students should be able to write complex programs for the turning and machining centers, key in program; edit programs for changes; plot part and produce tapes for programs; produce fixturing for parts; load programs from terminal; set up tooling and fixtures; produce complex parts on both turning and machining centers.
*Prerequisite: MAC 3300, MAC 3304, MAC 3305, MAC 3303, MAC 3306 (2-2) 3

***MAC 4317 Computer Numerical Control Graphics Programming—Turning Center:** Upon completion of this course, students should be able to develop a complete job plan using SmartCAM software, including machine selection, tool selection, operational sequence, speed, feed, depth of cut and tool offsets; demonstrate the interaction of menus to develop a shape file in a graphics CAM system; develop tool path geometry and part geometry to produce accurate machine tool information.
*Prerequisite: MAC 3300, MAC 3304, MAC 3305 (2-2) 3

***MAC 4318 Computer Numerical Control Graphics Programming—Machining Center:** Upon completion of this course, students should be able to develop a complete job plan using SmartCam software, including machine selection, tool selection, operational sequence, speed, feed, depth of cut and tool length offsets; develop a shape file in a graphics CAM system; produce coded information from CAM graphics to the computer numerical control milling center; use time-saving enhancement features of a graphics programming system to develop tool path and part geometry and perform editing functions; describe how multi-axis CNC machining relates to parts fixturing.
*Prerequisite: MAC 3300, MAC 3304, MAC 3305 (2-2) 3

***MAC 4319 Advanced 3-D Graphic Programming:** Upon completion of this course, students should be able to generate programs from 3-D graphics related to computer numerical control milling centers, understand the principles of 3-D graphics, transfer 2.5-D files to a 3-D graphics programming system, check and edit a transferred 2.5-D file in a 3-D graphics programming system; demonstrate the interaction of macros when used in conjunction with 3-D CAM graphics.
*Prerequisite: MAC 4317, MAC 4318 (2-2) 3

Manufacturing Engineering Technology - See MFG

MAT – Mathematics

Note: Prerequisites will be strictly enforced. Students who fail to provide the Mathematics Department with evidence of an acceptable mathematics background or of an adequate placement test score will not be allowed to register for mathematics classes.

***MAT 1504 College Algebra I:** This is the first of a two-course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering, or physical science. Students will recognize and apply the properties of the real numbers: add, subtract, multiply, and divide polynomials and rational expressions; factor; define and use integral and fractional exponents; simplify radicals; rationalize denominators; solve first- and second-degree equations and inequalities in one variable; solve applied problems; define and graph linear functions; determine inverses of linear functions; determine composition of functions; add, subtract, multiply, and divide functions.
Note: MAT 1504 is not applicable to mathematics, engineering, or science majors. Credit is not given to students already having credit for MAT 1514.
*Prerequisite: Placement examination, or a grade of C or better in MAT 9510, or consent of Department Head (5-0) 5

***MAT 1505 College Algebra II:** This is the second of a two-course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering, or physical science. Students will define, graph, and use exponential and logarithmic functions; use properties of logarithms; compute with logarithms and calculators; solve logarithmic and exponential equations as well as applied problems; solve systems of linear equations and inequalities algebraically and using determinants; use linear programming; find permutations and combinations; determine probabilities of events; solve quadratic equations and inequalities; graph quadratic and other non-linear functions and relations; write equations for and graph conic sections; solve simultaneous second-degree equations; use sequences, series, and summation notation; and solve applications using arithmetic and geometric progressions.
Note: MAT 1505 is not applicable to mathematics, engineering, or science majors. Credit is not given to students already having credit for MAT 1514.
*Prerequisite: A grade of C or better in MAT 1504, or consent of Department Head (5-0) 5

***MAT 1512 Calculus for Business and Social Sciences:** This is a brief treatment of the calculus for non-mathematics or non-engineering majors. Students will review functions and relations. They will be able to find limits, determine if a function is continuous, find derivatives of algebraic expres-

sions by the definition, find derivatives by using differentiation techniques, differentiate implicit functions, find higher order derivatives, apply the derivative to find relative and absolute extrema, determine concavity and points of inflection, find differentials, evaluate definite and indefinite integrals, find areas by integration, differentiate and integrate exponential and logarithmic functions.
NOTE: MAT 1512 is not applicable to mathematics, engineering, or science majors.
*Prerequisite: A grade of C or better in MAT 1505 or MAT 1514, or consent of the Department Head (5-0) 5

***MAT 1514 Precalculus Mathematics I:** This is the first of a two-course sequence designed to prepare students for the four-quarter calculus sequence or additional work in mathematics. Students will state and use the basic properties of the real number system; add, subtract, multiply, and divide algebraic expressions; factor; solve first - and second-degree equations; define, graph, and apply relations and functions; use straight lines and linear functions; solve polynomial equations of higher degree; solve linear and non-linear inequalities; solve rational functions and conic sections; define, graph, and apply exponential and logarithmic functions.
NOTE: A graphing calculator is required.
*Prerequisite: Placement examination, or a grade of C or better in MAT 1505, or consent of the Department Head
Corequisite: MAT 9511, or high school geometry, or consent of the Department Head (5-0) 5

***MAT 1515 Precalculus Mathematics II:** This is the second of a two-course sequence designed to prepare students for the four-quarter calculus sequence or additional work in mathematics. Students will solve systems of equations using algebraic, graphic, and matrix methods; define and apply trigonometric and circular functions; state and apply the addition and multiple angle formulas; prove identities; solve trigonometric equations; graph using symmetry, intercepts, asymptotes and excluded regions; solve parametric equations and apply to polar coordinates; define and apply sequences and summation notation; apply the binomial theorem to expand binomials.
NOTE: A graphing calculator is required.
*Prerequisite: MAT 1514 or consent of the Department Head (5-0) 5

***MAT 1524 Analytic Geometry and Calculus I:** This is the first of a four-quarter unified sequence of calculus. (The four-quarter sequence is recommended for students in engineering, mathematics, the physical sciences, and students who need more than an introduction to calculus.) Students will study algebraic and trigonometric functions with regard to the concepts of limits, derivatives, continuity, implicit differentiation, the differential and Newton's method of root approximation; apply the derivative to find extrema, increasing and decreasing intervals, concavity and graphing; and solve related-rate problems. Computer techniques will be used where applicable.
NOTE: A graphing calculator is required.
*Prerequisite: A grade of C or better in MAT 1515 and plane geometry, or consent of the Department Head (5-0) 5

***MAT 2504 Analytic Geometry and Calculus II:** This is the second of a four-quarter sequence of calculus. Students will evaluate definite and indefinite integrals with regard to algebraic, exponential, trigonometric, logarithmic, hyperbolic and inverse functions; state and apply the Fundamental Theorem of calculus; apply calculus techniques to finding area, volume, work, pressure; study exponential growth and decay; use summation notation; and find approximations to area. Computer techniques will be used where applicable.
NOTE: A graphing calculator is required.
*Prerequisite: A grade of C or better in MAT 1524, or consent of the Department Head (5-0) 5

***MAT 2505 Analytic Geometry and Calculus III:** This is the third of a four-quarter sequence. Students will solve integration problems by the techniques of substitution, parts, trigonometric substitutions, partial fractions, miscellaneous substitutions; use integral tables; use numerical integration; solve analytic geometry problems involving the conic sections; use the polar coordinate system (with regard to calculus ideas); find the limit of indeterminate forms (via L'Hopital); evaluate improper integrals; use Taylor's polynomial and approximations, sequences and series. Computer techniques will be used where applicable.
NOTE: A graphing calculator is required.
*Prerequisite: A grade of C or better in MAT 2504, or consent of the Department Head (5-0) 5

***MAT 2506 Analytic Geometry and Calculus IV:** This is the last of a four-quarter sequence. Students will perform operations on vectors in two and three dimensions; find derivatives and integrals of vector-valued functions in two and three dimensions; find velocity and acceleration; determine domain, continuity and the differentiability of functions of more than one variable; find partial derivatives, total derivatives, higher-order partial derivatives, directional derivatives, gradients; evaluate and apply partial derivatives; apply multiple integrals (including double integrals, iterated integrals, center of mass, double integrals in polar coordinates, surface area and triple integrals). Computer techniques will be used where applicable.
NOTE: A graphing calculator is required.
*Prerequisite: A grade of C or better in MAT 2505, or consent of the Department Head (5-0) 5

***MAT 2508 Ordinary Differential Equations:** This is a first course in the study of differential equations. Upon completion of this course, students will be able to solve ordinary differential equations by the standard method of solution. This includes the methods of variable separable, first-order, exact, homogeneous, equations reducible to first-order, existence and uniqueness of solutions, homogeneous equations with constant and variable coefficients, Euler, linear homogeneous by Taylor's series, nonhomogeneous and undetermined coefficient; variation of parameters; elimination and matrix method to homogeneous linear solutions; variation of parameter to non-homogeneous systems; the Laplace transform applied to differential equations and systems; boundary value problems including eigen values and eigen functions. In addition, students will demonstrate an understanding of the general theory of ordinary differential equations and the application of differential equations to present-day engineering problems. Computer techniques will be used where applicable.
*Corequisite: MAT 2506 or consent of the Department Head (5-0) 5

***MAT 2514 Statistics I:** Students will organize, analyze, and interpret statistical data; calculate measures of central tendency and dispersion; state and apply basic probability laws; draw statistical inferences using random sampling and the binomial and normal distributions; test hypotheses; find sam

ple sizes and confidence intervals for a single population.
*Prerequisite: A grade of C or better in MAT 1504 or MAT 3504 or MAT 3507, or consent of the Department Head (5-0) 5

***MAT 2515 Statistics II:** This is a continuation of Statistics I. Students will draw statistical inferences using students' t, chi-square, and F distributions for two populations; design experiments; use analysis of variance, contingency tables and linear regression; evaluate the correlation coefficient; test the utility of a multiple regression model; use non-parametric methods including the sign test. Students will select and prepare an individual project.
*Prerequisite: A grade of C or better in MAT 2514, or consent of the Department Head (5-0) 5

***MAT 2590 Individual Study:** This course will provide students with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the Mathematics Department. Each student or group of students works under the supervision of a member of the Mathematics Department.
*Prerequisite: Approval of the sponsoring instructor and the Department Head (5-0) 5

MAT 3306 Technical Trigonometry: Students will define the trigonometric ratios; solve right triangles; find resultants and components of vectors; add vectors; find trigonometric ratios of standard position angles; solve oblique triangles using the laws of sines and cosine. (3-0) 3

***MAT 3325 General College Mathematics:** This is an overview of the many varied applications of mathematics using mainly numerical methods. Students will learn to solve applications using whole numbers, fractions, decimals, and percent. Students will be introduced to applications of geometry and the English and metric system of measurements. Applications of algebra through formula manipulation will be introduced at a very fundamental level. Students will be required to present to the class "real world" applications of the material being studied. Calculators will be used throughout the course.
NOTE: This course usually cannot be transferred to a 4-year institution.
*Prerequisite: Placement examination, or a grade of C or better in MAT 9500, or MAT 9501,or MAT 9502,or MAT 9510, or consent of the Department Head (3-0) 3

***MAT 3504 Technical Mathematics I:** Students will solve fractional, non-fractional, and quadratic equations; find special products and factor; graph; perform operations on algebraic fractions; rearrange formulas; solve systems of equations; and use matrices and determinants.
*Prerequisite: Placement examination or a grade of C or better in MAT 9502 or MAT 9510 (5-0) 5

***MAT 3505 Technical Mathematics II:** Students will perform operations on polynomials; solve and graph linear equations; simplify and perform operations on square root radicals; solve radical equations and formulas; graph non-linear functions; and find powers and roots.
*Prerequisite: A grade of C or better in MAT 3504, or consent of the Department Head (5-0) 5

***MAT 3507 Engineering Technology Mathematics I:** Students will perform the basic operations on algebraic expressions; evaluate and solve formulas; define and recognize a function; graph functions; solve systems of linear equations graphically, algebraically, and by determinants; define and use trigonometric functions to solve right triangles; find trigonometric functions of any angle; find vector sums and differences; apply radians to problem solving; solve oblique triangles by laws of sines and cosines.
NOTE: A graphing calculator is required.
*Prerequisite: Placement examination, or a grade of C or better in MAT 9510, or consent of Department Head
Corequisite: High school credit in geometry or MAT 9511 (5-0) 5

***MAT 3508 Engineering Technology Mathematics II:** This is a continuation of MAT 3507. Students will add, subtract, multiply, and divide algebraic fractions; solve quadratic equations by factoring, completing the square, and quadratic formula; perform basic operations on expressions containing exponents, radicals, complex numbers, logarithms, exponential functions; and evaluate determinants using cofactors and calculators.
NOTE: A graphing calculator is required.
*Prerequisite: A grade of C or better in MAT 3507, or consent of the Department Head (5-0) 5

***MAT 3509 Engineering Technology Mathematics III:** This is an applied course in analytic geometry and calculus designed for engineering technology students. Students will solve inequalities; verify trigonometric identities; solve plane analytic geometry problems related to the circle, parabola, ellipse, hyperbola, and straight line; find limits, slope of a tangent line to a curve, and derivatives; differentiate polynomials, products, quotients, powers and implicit functions; apply the derivative to tangents and normals, curvilinear motion, related rates, curve sketching, Newton's method to solve equations, and maximum minimum problems.
NOTE: A graphing calculator is required.
*Prerequisite: A grade of C or better in MAT 3508, or consent of the Department Head (5-0) 5

MAT 3516 Introduction to Statistical Process Control: Upon completion of this course, students should know about the history of Process and Quality Control and especially how it relates to foreign competition; know how to make frequency distributions and histograms; compute mean, median, mode, standard deviation, and range; understand the difference between prevention and detection, and how these apply to modern industry; make and use Cause and Effect Diagrams, Pareto Charts, and Stem and Leaf Diagrams; make, use, and interpret various control charts for Variables including "X-R", "X-s", "Individuals" charts; make, use, and interpret various control charts for attributes including "p", "np", "c", and "u"; know how to find process capability; know about efficient and inefficient industrial operations from various case studies. (5-0) 5

***MAT 4507 Engineering Technology Mathematics IV:** This is a continuation of MAT 3509. Students will find differentials, antiderivatives, indefinite integrals; integrate numerically; and evaluate integrals using the Trapezoidal Rule. Students will also apply integration to practical problems; find derivatives of transcendental functions; use various methods of integration to evaluate intervals; and expand functions in series using Maclaurin, Taylor and Fourier Series.
NOTE: A graphing calculator is required.
*Prerequisite: A grade of C or better in MAT 3509, or consent of the Department Head (5-0) 5

***MAT 5304 Basic Mathematics I**: Upon completion of this course, students should be able to perform arithmetic operations on whole numbers, fractions, and decimals; solve problems relating to percent, metric measurements, graphs; perform operations for both flat and solid shapes; perform simple operations involving the fundamentals of applied trigonometry, such as concepts of right triangle trigonometry, sine, cosine, and tangent. Applications are designed specifically for students in the Mechanical Drafting curriculum.
*Prerequisite: Placement examination or a grade of C or better in MAT 9501, or MAT 9510, or consent of the Department Head (3-0) 3

***MAT 5305 Basic Mathematics II**: Upon completion of this course, students should be able to perform simple operations involving the fundamentals of applied algebra such as symbols, first degree equations, ratio and proportions, exponents and radicals; and perform simple operations involving tolerances, classes of fits and dimensional tolerancing.
*Prerequisite: A grade of C or better in MAT 5304, or consent of the Department Head (3-0) 3

MAT 9500, MAT 9501, MAT 9502, MAT 9510, MAT 9511: see pages 46 - 47

MEC – Mechanical Engineering Technology

MEC 3101 College and Career Orientation: Upon completion of this course, students will have received an orientation to the College and to the mechanical/manufacturing programs, including the services and personnel available; explored available mechanical/manufacturing course specializations and associated career path opportunities; explored the continuing education possibilities, including the Bachelor of Engineering Technology (BSET) programs; explored the benefits of membership in professional organizations, including the student section of SME; and heard speakers from industry discuss their individual needs and what they look for when selecting graduates for employment. (1-0) 1

***MEC 3320 Geometric Dimensioning and Tolerancing (GD & T)/Metrology:** Upon satisfactory completion of this course, the student will be able to describe the various terms, principles, and instruments involved in using geometrical dimensioning and tolerancing; discuss standards of measurement; use precision and non-precision measuring devices; explain the difference between accuracy and precision; apply GD & T/Metrology techniques to detail product drawings and product inspection.
*Prerequisite: DFT 3404, MAC 3201 (2-3) 3

***MEC 3504 Production Methods:** Upon completion of this course, the student will be able to describe non-cutting production processes such as casting, powder metallurgy, forming, plastics manufacturing, welding, brazing, and mechanical joining techniques; discuss the capabilities and limitations of cutting-type machine tools and processes such as lathes, drill presses, milling machines, broaches, grinders, and non-traditional machining methods (NTM); and select the most economical manufacturing method(s) above to produce useful shapes from raw materials.
*Prerequisite: DFT 3404, MAC 3201 (4-2) 5

***MEC 3524 Mechanics of Materials:** Upon completion of this course, students should be able to identify and calculate simple stresses; compute the deformation and strain due to axial and shearing stresses; construct shear and moment diagrams; calculate stresses in beams and deflection of beams; compute stresses due to combined loading; analyze and design welded, bolted and riveted connections; and calculate the load carrying capacities of long and intermediate columns.
*Prerequisite: MAT 3508, MEC 4508 (3-6) 5

***MEC 4284 Cooperative Work Experience I:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and knowledgeable understanding of careers in the Mechanical and Manufacturing Engineering Technology industries and demonstrate results of applied experience to compliment class and lab instruction.
*Prerequisite: 45 core curriculum credit hours earned at CPCC toward A.A.S., permission of Co-Op office, COE 3100. (0-0-20) 2

***MEC 4285 Cooperative Work Experience II:** Upon completion of this course, students should be able to demonstrate a positive attitude toward and knowledgeable understanding of careers in the Mechanical and Manufacturing Engineering Industries, and demonstrate results of applied experience to complement class and lab instruction.
*Prerequisite: MEC 4284, permission of Co-Op office (0-0-20) 2

***MEC 4402 Machine Design:** Upon completion of this course, students should be able to design machine parts on the basis of function and strength of material calculations, such as fasteners, permanent joints, shafts and couplings, plain bearings, ball and roller bearings, belts and chains, gears, clutches and brakes, and springs; select machine parts for a particular machine function by use of manufacturers' catalogs, manuals, and periodicals; and complete a design project.
*Prerequisite: DFT 3404, MEC 3524, MEC 4405 (3-3) 4

***MEC 4403 Engineering Materials:** Upon completion of this course, students should be able to enumerate basic manufacturing processes and define physical and mechanical properties of materials; perform and evaluate standard tests such as tensile, impact, hardness, etc.; discuss the structure of metals, characteristics of metals, the effect of heat treating on ferrous metals; describe the production and properties of ferrous and non-ferrous metals; explain the various heat treatment processes, the equipment used, and perform simple heat treatment processes; describe the properties of thermosetting and thermoplastic polymers and ceramic and composite materials.
*Prerequisite: MAT 3507, ENG 3405 (3-3) 4

***MEC 4404 Tool and Die Design:** Upon completion of this course, a study of the knowledge and skills needed for the design of tools, fixtures, and dies, students should be able to perform engineering calculations to determine cutting force, stripping forces, clearances, work and cycle time; design and draw jigs and fixtures; design piercing and blanking dies; design bending and forming dies; and complete a design project.
*Prerequisite: DFT 3314, MEC 3524 (2-6) 4

***MEC 4405 Mechanisms:** Upon completion of this course, students should be able to solve and check, by graphical and analytical methods, problems concerning the motion of machine elements, including the displacement velocity and

acceleration of points and lines within these elements, and design mechanisms using cams, belts, pulleys, gears, and linkages.
*Prerequisite: DFT 3314, MEC 4508, PHY 1405 (3-3) 4

***MEC 4425 Thermodymanics:** Upon completion of this course, students should be able to explain the basic laws of thermodynamics, define the technical terms used in thermodynamics, write in both word and algebraic form the general energy equations, use these equations for solving typical problems, work typical problems using both the British Gravitational and International systems of measurements.
*Prerequisite: PHY 1405, MAT 3508 (3-3) 4

***MEC 4434 Hydraulics and Pneumatics:** Upon completion of this course, students should be able to perform certain computations related to hydrostatics, hydrodynamics, and the general gas law; draw hydraulic symbols; make sketches of and explain how the following hydraulic and pneumatic system components work: fluid power pumps and motors, hydraulic cylinders and rams, fluid reservoirs, plumbing and related components, pressure, flow and directional control valves; and design and troubleshoot simple hydraulic circuits.
*Prerequisite: PHY 1405, MAT 3508, or departmental permission (3-3) 4

***MEC 4508 Applied Mechanics:** Upon completion of this course, students should be able to solve problems pertaining to force systems; calculate the location of centroids and centers of gravity; draw free-body diagrams; analyze forces in simple trusses and frames; calculate friction; compute the moment of inertia of areas and bodies; construct shear and moment diagrams; solve problems related to the kinetics of particles and rigid bodies; apply the laws of force and motion; and perform calculations related to work energy and power.
*Prerequisite: PHY 1405, MAT 3508 (3-6) 5

MEC 5214 Applied Metallurgy I: Upon completion of this course, students should be able to describe the production of iron and steel, discuss the major forming methods, explain the crystalline nature of metals, discuss basic testing procedures, describe the method of classifying steels, identify unmarked materials, perform hardness and tensile tests, and discuss phase diagrams.
Note: This course does not satisfy degree requirements for Manufacturing or Mechanical Engineering Technology. Engineering Technology students should see MEC 4403. (1-3) 2

MEC 5215 Applied Metallurgy II: Upon completion of this course, students should be able to discuss the properties and use of cast irons, explain the importance of metallurgy on welding, describe the production and use of powder metal and nonferrous metals, and perform simple heat treatments on plain carbon steel.
Note: This course does not satisfy degree requirements for Manufacturing or Mechanical Engineering Technology. Engineering Technology students should see MEC 4403.
*Prerequisite: MEC 5214 (1-3) 2

Mechanical Drafting – See DFT

MED – Medical Assisting

***MED 3200 Health Insurance:** Upon completion of this course, students should be able to discuss the responsibilities of a medical office insurance specialist, identify the types of insurance and assistance programs that pay for health care services, process medical insurance claim forms, and identify standard coding methods.
*Prerequisite: MED 3304, SEC 3303, or Departmental approval (2-0-0) 2

***MED 3300 Drug Therapy:** Upon completion of this course, students should be able to identify major drugs and/or drug groups, recognize side effects, describe interaction of drugs, and relate various methods of administration of drugs to reaction.
*Prerequisite: Fifth quarter standing or Departmental approval (3-0-0) 3

MED 3302 Medical Lab Fundamentals: Upon completion of this course, students should be able to identify and explain medical aseptic practices, relate diagnostic and therapeutic procedures to basic body functions and correlate these procedures for assisting with a physical examination to normal body tissues, and use the correct medical terminology in order to communicate with the health care team. (2-2-0) 3

***MED 3303 Clinical Lab I:** Upon completion of this course, students should be able to maintain a physician's office in regard to housekeeping and maintenance, carry out medical and surgical asepsis, and list procedures and situations in which each is applied, demonstrate correct procedures for assisting the physician with physical examinations, describe the legal standards for drug administration and calculate dosages, and demonstrate a working knowledge of basic nutrition.
*Prerequisite: MED 3302, MED 3304 (2-2-0) 3

MED 3304 Medical Terminology and Vocabulary I: Upon completion of this course, students should be able to read and understand medical terms; build medical terms from Greek and Latin prefixes, suffixes, word roots and combining forms; spell medical terms correctly; use a medical dictionary; and use appropriate abbreviations and symbols. (3-0-0) 3

***MED 3305 Medical Terminology and Vocabulary II:** Upon completion of this course, students should be able to pronounce and spell correctly certain medical terms; define medical terms as they pertain to anatomy, physiology, and diseases, operations, tumors, drugs, and related descriptive terms; and demonstrate ability to build medical words and analyze word components. The above objectives will apply to the following systems: skin, musculoskeletal, cardiovascular, blood and blood forming organs, respiratory, systemic diseases and oncology.
*Prerequisite: MED 3304 (3-0-0) 3

***MED 3306 Medical Terminology and Vocabulary III:** A continuation of MED 3305 with objectives applying to the following systems: neurological and psychiatric, urogenital, gynecological and obstetrics, endocrine, sense, and digestive.
*Prerequisite: MED 3304 (3-0-0) 3

***MED 3307 Symptomatology:** Upon completion of this course, students should be able to assess signs and symptoms of disease and take appropriate action when dealing with patients in a medical facility. Problem-solving techniques will be utilized.
*Prerequisite: Fifth quarter standing or Departmental approval (3-0-0) 3

***MED 3315 Medical Office Administration:** Upon completion of this course, students should be able to demonstrate skills in effective telephone technique, receive patients, arrange appointments, maintain accurate patient records, handle mail, manage all office records, process written communications, make travel arrangements, perform editorial duties, and describe supervisory skills needed in a medical office.
*Prerequisite: MED 3404, SEC 3303 (3-0-0) 3

***MED 3404 Medical Economics:** Upon completion of this course, students should be able to keep a single entry set of books, maintain peg board, maintain a checking account, follow an efficient billing schedule, compose effective collection letters, apply rules for telephone requests for payment, handle special collection problems, explain medical fees, and assist patient in planning financing of medical care.
*Prerequisite: Pre-entrance testing. (4-0-0) 4

MED 4302 Medical Ethics and Law: Upon completion of this course, students should be able to describe the laws that govern the practice of medicine, differentiate between the various medical practice arrangements and their legal implications, describe each medical service available to the public in the community and the way each contributes to comprehensive care, explain the meaning of the A.M.A. principles of Medical Ethics and discuss how each applies to the physician and the staff, and list the Supreme Court decisions in which the medical profession is directly involved. (3-0-0) 3

***MED 5104 Professional and Vocational Responsibilities of the Medical Assistant:** Upon completion of this course, students will have begun to explore the personal and vocational responsibilities of a practitioner in the field of medical assisting. A discussion of the problems encountered during the practicum and solutions which may be applied will be shared.
*Prerequisite: Fourth quarter standing
Corequisites:MED 5707, MED 5315, HLT 5302 (1-0-0) 1

***MED 5204 Orientation to Health Careers:** Upon completion of this course, students should be able to identify the important historical contributions to modern medicine, explore major allied health professions and the personal/professional requirements of each, and develop skills in psychological assessment of both self and patients.
*Prerequisite: Pre-entrance testing or Departmental consent (2-0-0) 2

***MED 5315 Advanced Medical Office Procedures:** Upon completion of this course, students should be able to assist the physician and explain the preparation of the patient who is to have such advanced diagnostic procedures as chemotherapy, radiation and nuclear medicine; demonstrate correct methods of administering medication, restraining methods, growth patterns and collection of specimens for the pediatric patient; and administer CPR.
*Prerequisite: Fourth quarter standing
Corequisites: HLT 5302, MED 5104, MED 5707 (3-0-0) 3

***MED 5400 Clinical Education A:** This course will involve the identification of a project in a prearranged medical agency, the collection and analysis of data, and the presentation of findings. Students must obtain prior approval from the instructor.
*Prerequisite: Seventh quarter standing (2-0-6) 4

***MED 5503 Clinical Lab II:** Upon completion of this course, students should be able to identify all equipment and supplies and establish a method of inventory; select, assemble, and prepare sterile supplies and equipment needed to assist in surgical procedures using aseptic technique; take blood pressure using palpation and auscultation methods; demonstrate eye and ear irrigations and instillations; prepare and administer medications safely and accurately; demonstrate recording and mounting of electrocardiogram; and demonstrate professionalism by dependability, responsibility, and initiative.
*Prerequisite: Completion of first two quarters
Corequisite: MED 5614 (2-6-0) 5

***MED 5614 Laboratory Procedures:** Upon completion of this course, students should be able to cite the laboratory rules of safety; handle the equipment and reagents in a safe, responsible manner; identify the equipment, glassware, and supplies by sight and use; and demonstrate the basic knowledge of the simple laboratory tests done in a physician's office by performing tests with accuracy, speed, personal integrity and complete honesty.
*Prerequisite: Completion of first two quarters;
Corequisite: MED 5503 (3-6-0) 6

***MED 5707 Medical Office Practice:** This course is a practicum in Medical Assisting. Each student is assigned to a physician's office, clinic, or out-patient department. Upon completion of this course, students should be able to perform the duties of the medical assistant as they apply to the assigned office; demonstrate professional and communication skills necessary for the effective care of the patient; and express an understanding of the practice of comprehensive health care in the community.
*Prerequisite: Completion of first three quarters
Corequisites: MED 5104, MED 5315, HLT 5302 (0-0-21) 7

MET – Medical Transcription

***MET 3204 Medical Transcriptionist as A Professional:** Upon completion of this course, students should be able to identify problems that may arise when working as a Medical Transcriptionist, suggest ways to solve these problems in a manner in keeping with the professional worker, and express increased knowledge of basic procedures and understanding of the medical practice gained by reviewing and sharing experiences and by giving oral reports.
*Prerequisite: Fourth quarter standing
Corequisite: MET 3505, MET 3406 (2-0-0) 2

***MET 3400 Introduction to Medical Transcription:** In this course, students will be introduced to material that is routinely transcribed in a medical office. Upon completion of this course, they should be able to transcribe given medical material accurately.
*Prerequisite: MED 3304, SEC 3303, MED 3302 or
BIO 1504, BIO 1505 (2-4-0) 4

***MET 3406 Transcription Practice II:** This is the practice of medical transcription in a physician's office or hospital record room. Upon completion of this course, students should be able to operate transcription equipment efficiently, demonstrate competency in transcribing medical reports, establish positive rapport with co-workers, and utilize and organize time to best advantage.
*Prerequisite: Fourth quarter standing
Corequisites: MET 3204, MET 3505 (0-0-12) 4

***MET 3505 Transcription Practice I:** This is the practice of medical transcription in a physician's office or hospital record room. Upon completion of this course, students should be able to operate transcription equipment efficiently, demonstrate competency in transcribing medical reports, establish positive rapport with co-workers, and utilize and organize time to best advantage.
*Prerequisite: Fourth quarter standing
Corequisites: MET 3204, MET 3406 (1-0-12) 5

***MET 3904 Transcription:** Upon completion of this course, students should be able to demonstrate operation of dictating machines correctly and efficiently; given practical situations, identify ethical and legal aspects of medical transcription; given worksheets, demonstrate competency in the use of dictionaries, PDR, and other references; transcribe medical reports and correspondence from a cassette, record, or belt into a final typed mailable and permanent form in an assigned length of time; given discussion and medical terms, relate the disease process with diagnostic and therapeutic procedures and with the anatomical parts involved; and given transcribed medical reports, read and explain the content of the report.
*Prerequisite: Third quarter standing (4-10-0) 9

MFG – Manufacturing Engineering Technology

***MFG 3301 Engineering Economic Analysis:** Upon completion of this course, students should be able to state the concepts of engineering economic analysis; construct cash flow diagrams; evaluate different economic alternatives; discuss fixed, increment and sunk costs, depreciation and capitalized cost; make economic choices using methods of present worth, equivalent uniform annual cost, and MARR; perform replacement/retirement and break even analysis; and discuss value analysis and the effect of taxation on economic decisions.
*Prerequisite: MAT 3508 (2-3) 3

***MFG 3307 Introduction to Computer Integrated Manufacturing (CIM):** Upon completion of this course, students should be able to enumerate and explain the major components of CIM, such as Statistical Process Control (SPC), computer technology and networks, computer aided design (CAD), computer aided manufacturing (CAM), application software, group technology and design for manufacturing, numerical control (NC), robotics, artificial intelligence (AI), flexible manufacturing systems/cells (FMS/FMC), process planning, automated storage and retrieval (ASR), inventory control and business function, management and personnel challenges, and implementation.
*Prerequisite: Departmental permission (2-3) 3

***MFG 4305 Plant Layout and Materials Handling:** Upon completion of this course, students should be able to explain the three types of classic layouts; design a plant layout, based on the following: size, physical and chemical characteristics, quantity and variety of parts, products and materials, the nature, size and quantity of machines and equipment, the worker, waiting and service factor, office and employee facilities; select the proper fixed and nonfixed floor and overhead materials handling equipment to move materials and products efficiently and economically.
*Prerequisite: DFT 3314, MEC 3405 or Departmental permission (2-3) 3

***MFG 4307 Introduction To Robotics:** Upon completion of this course, students should be able to describe the function of industrial robots; identify the main components of robots; understand the principles of operation of the following robotic controls: hydraulic, pneumatic, and electrical/electronics; analyze the motion of the robot arm; explain the basic concepts, components, and application of servo systems; program robots to perform selected operations; and maintain, service and troubleshoot hydraulic, pneumatic and mechanical robotic equipment.
*Prerequisite: EDP 3310 or EDP 3405 or Departmental permission (2-3) 3

***MFG 4308 Robotics/Automation:** Upon completion of this course, students should be able to describe and select industrial robots for typical automated manufacturing applications; design and program a typical robotic pick-and-place application; understand concepts of robotic/automation work cells, Flexible Manufacturing Systems (FMS), Computer Assisted Manufacturing (CAM), and hard automation; identify and justify the most economical system above for a specific manufacturing process; identify components of work cells, FMS and hard automation; and identify manufacturing processes for increasing productivity through the application of automated manufacturing technology.
*Prerequisite: MFG 4307 or Departmental permission (2-3) 3

***MFG 4314 Statistical Quality Control:** Upon completion of this course, students should be able to use applied statistical concepts to control the quality of manufacturing processes. Primary emphasis is on the use of statistical charting techniques to assist in controlling a process. Students will learn to interpret the charts for out-of-control situations and use chart data and specification data to calculate process capability indices and to interpret these indices as a measure of process capability. Laboratory sessions will illustrate theory through the use of case studies involving practical manufacturing process control situations and will demonstrate the use of a microcomputer as a process control tool.
*Prerequisite: MAT 3508, MEC 3405, or Departmental permission (2-3) 3

***MFG 4316 Process Planning:** Upon completion of this course, students should be able to perform a dimensional and tolerance analysis of a product print, using tolerance charts; select and plan the process of manufacture and its sequence; and select the machine tool, standard and special equipment, and tooling for the most economical manufacturing process.
*Prerequisite: DFT 3404, MEC 3405, or Departmental permission (2-3) 3

MGT – Management/Business Administration

MGT 2314 Principles of Management: This is an introductory course in business management principles designed to give students practice in surveying common management problems and challenges and practice in applying sound judgment in management decisions. Upon completion of this course, students should be able to describe the functions of managers, define management planning, recognize good business objectives, illustrate organizational charts, design a

staffing program, explain and apply leadership and decision making in business cases, and identify control measures useful in business operations. (3-0) 3

MGT 3303 Small Business Management: This is a course designed for those who may want to start and operate their own business, as well as those who are already business owners but wish to strengthen their entrepreneurial and management skills through development of a small business plan. Upon completion of this course, students should be able to assess the opportunities and risks involved in the small business; apply the techniques involved in starting a new venture including the legal aspects and development of a business plan; and explain the techniques and principles of planning, organizing, directing, and controlling the operating venture. (3-0) 3

MGT 4322 Purchasing: Upon completion of this course, students should be able to define the purchasing function, describe purchasing's role in business, recognize the importance of quality assurance, explain the role purchasing plays in deciding to make or buy, discuss its relationships to other company departments, describe the importance of planning and forecasting, interpret the ethics of purchasing, develop the legal aspects of purchasing, explain the need for evaluating purchasing, describe EDP's usefulness in purchasing, detail the development of both the organization and personnel for purchasing, conduct purchasing computer simulation, and apply purchasing formulas and methods for cost analysis. (3-0) 3

MGT 4329 Supervision for Health Care Organizations: The primary objective of this course is to present the fundamentals of organizing and managing the records-keeping or administration of a health care facility. Upon completion of the course, students should be able to demonstrate competency in the management functions of planning, organizing, controlling, and evaluating health information services; the application of legal regulations and standards in the use of health information; the direction and evaluation of records-keeping personnel; and the techniques used in the development and implementation of health information systems. (3-0) 3

MGT 4330 Supervision: This is an introductory course in application of management principles and concepts to first-line supervisory positions. Upon completion of this course, students should be able to identify the position of the supervisor in the management structure, discuss the unique interpersonal relations required of the supervisor, identify manpower management techniques, explain the concept of job analysis and evaluation, describe supervisory leadership techniques for various job groups, and evaluate the supervisor's role in labor relations. (3-0) 3

MGT 4331 Administrative Office Management: This is a course applying the principles and techniques of management to the flow of information within an enterprise. Upon completion of this course, students should be able to explain the application of the principles of management to the office organization, problem solving, communications in the office, space management, ergonomics in the design and layout of an office, equipping the office, the lease-buy decision, and health hazards in the office environment. (3-0) 3

MGT 4332 Human Resources Management I: This is an introductory course in the field of human resources management. Upon completion of this course, students should be able to describe the application of management principles to human resources, describe the history of personnel management, list and describe sources used in internal and external recruiting, design a personnel selection procedure, formulate employee and management development plans, and identify systems used for employee performance evaluation. (3-0) 3

***MGT 4333 Introduction to Industrial Management:** This is a course providing a survey of the planning, function, and control of the production process in manufacturing organization. Upon completion of this course, students should be able to recognize and explain the underlying principles of industrial management, identify and illustrate the planning concepts used in a production system, demonstrate the scheduling of machine and personnel assets, explain the process of inventory control, and outline the procedures used in quality control.
*Prerequisite: MGT 2314, BUS 3304 (3-0) 3

***MGT 4334 Management Seminar:** This is a course which expands the knowledge of principles and techniques acquired in Principles of Management, and relates that knowledge to practical situations concerning the development of management strategy and policy through the techniques of lectures, case studies, and critical incident analysis. Upon completion of this course, students should be able to demonstrate improved deductive and decision-making capabilities through use of the case method and be able to develop practical management strategies and policies to aid in organization-wide problem solving.
*Prerequisite: MGT 2314 (3-0) 3

MGT 4335 Production Planning and Control: This is a course in the application of management planning and control techniques to the production process. Upon completion of this course, students will be able to explain important concepts and implement procedures for master planning, capacity planning, inventory management and control, and scheduling and controlling of operations. Simulation using MAPICS software will be used to provide practical experience in these topics. (3-0) 3

MGT 4336 Essentials of Total Quality Management: This course provides an introduction to and a general overview of the Total Quality approach to management. Founded on the general teachings of Dr. W. Deming, students will be introduced to the Deming 14 points, statistical process analysis, and worldwide quality management practices. ISO 9000 standards will be the primary TQM model used. (3-0) 3

***MGT 4337 Human Resources Management II:** This is a course providing a continuation of the study of basic personnel management practices. Upon completion of this course, students should be able to define the factors in organizational climate; identify the channels of management communications; review the concept of managerial leadership; interpret the importance of labor relations in human resources management; design a basic wage and salary plan; outline a basic security and benefit system; and identify the role played by EEO, safety and health, and financial incentive plans in personnel management.
*Prerequisite: MGT 4332 (3-0) 3

***MGT 4338 Labor-Management Relations:** This is a course which examines the basic principles and strategies used in labor-management relations. Upon completion of this course, students should be able to recognize the rights and

responsibilities of both labor and management; describe the negotiation and administration of a labor agreement; identify various labor outcomes such as discipline, labor security, minority rights, technological changes and wage/benefit issues; apply the labor relations process to governmental personnel matters; and identify the differences between public and private personnel procedures. Students having prior work experience in management may substitute their experience for the prerequisites with consent of Department Head.
*Prerequisite: MGT 4332, MGT 4337, or consent of Department Head (3-0) 3

MGT 4339 Inventory Management: Upon completion of this course, students should be able to maintain a desired level of customer service, minimize inventory investment, control manufacturing and purchasing operations effectively, establish a computerized inventory management system, and prepare for the inventory management certification examination. (3-0) 3

MKT – Marketing and Retailing

MKT 1304 Marketing I: This course is the first of a two-part study of Marketing. Upon completion, students should be able to explain the importance of marketing in our economic system; explain the marketing concept and the impact of environmental and technological factors on this concept; describe buyer behavior from economic, psychological, and social points of view; identify and classify marketing activities; distinguish among the various marketing research methods; classify products; and explain product pricing and distribution strategies and their relation to the marketing process. (3-0) 3

MKT 1305 Marketing II: Upon completion, students should be able to explain promotion, pricing, and distribution, and their place in the marketing process; recognize the place of marketing in current society and discuss contemporary issues; explain the growth in and importance of international marketing, as well as the significance of the balance of payments; explain a fully integrated marketing program; explain the significance of the computer as a tool in the marketing process; and recognize career opportunities in marketing. (3-0) 3

***MKT 3204 Cooperative Work Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-op Office (0-20) 2

***MKT 3205 Cooperative Work Experience II:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-op Office/ MKT 3205 has a prerequisite of MKT 3204. (0-20) 2

***MKT 3206 Cooperative Work Experience III:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-op Office/ MKT 3206 has a prerequisite of MKT 3205. (0-20) 2

MKT 3320 Fundamentals of Selling: This course is designed to provide students with a general survey of the various careers in selling, along with a thorough study of the selling process from preparation to closing of the sale. Upon completing this course, students should be able to collect proper data and prepare for a sales interview; conduct a successful sales interview including the approach, presentation, demonstration, meeting objections, and closing; and instill confidence and trust in the prospect by exhibiting confidence as a result of proper preparation. (3-0) 3

***MKT 4305 Advanced Selling Skills**: This course is a follow-up course for MKT 3320 and teaches alternative selling skills. Upon completion, students should be able to develop strategic selling knowledge; plan methodically for a sale; focus on a dominate sales theme; use the trail development plan; use persuasive strategies; apply decision theories to buyer behavior; apply various prospecting methods; use planning aids; use alternative approaches; set objectives for a presentation; understand the psychology of objections; customize a close; and apply acceptable business ethics to sales situations.
*Prerequisite: MKT 3320 (3-0) 3

MKT 4320 Retailing: Upon completion of this course, students should be able to differentiate between various types retailers; evaluate franchises, including the contract, possible locations,potential store functions and personnel; explain the buying function and role of resident buying offices; apply merchandise pricing principles and formulas; schedule and plan merchandise handling areas; explain and evaluate various store security methods; discuss the role and importance of retail advertising and plan a store promotional activity; identify display material and techniques; complete a retail sale; and explain credit and collection procedures. (3-0) 3

MKT 4321 Advertising: This course is designed to instruct in the use of advertising as a marketing tool. Upon completion, students should be able to develop an advertising plan based on marketing objectives for a specific product or service. This course excludes the implementation of creative strategies. (3-0) 3

***MKT 4325 Sales Management**: Upon completion of this course, students should be able to explain the organization

and functions of territorial, district, regional, and company sales management; know the difference between various types of sales organizations and their objectives; plan and conduct a sales meeting; organize and conduct a customer product meeting; record and file an expense account; and make sales forecasts.
*Prerequisite: MKT 3320 or instructor permission (3-0) 3

MKT 4340 Merchandising: Upon completion of this course, students should be able to describe the buying function and its relationship to other functional activities in the business, describe the similarities and differences of the buyer's responsibilities in departmentalized stores, centralized chain offices, and resident buying offices, identify the staff departments that service and support selling and sales promotion activities, identify the merchandising techniques and information sources that are used in determining what and how much to buy, and identify criteria used in the selection of resources. (3-0) 3

***MKT 4354 Visual Merchandising:** Upon completion of this course, students should be able to discuss the importance of display design as a visual merchandising medium and its use as a sales supporting activity, understand the basic principles and elements of design that are applicable to display design, differentiate between different types of displays, display organization, policies and procedures, discuss the display and design person's responsibilities and interrelationships with various departments, and apply the physical elements of display compositions and arrangements.
*Prerequisite: MKT 4320. (3-0) 3

MKT 4384 Customer Service: Upon completion of this course, students should be able to explain the importance of customer relations in business, know how to plan for the customer through physical store layout, stock, and special services, plan the advertising for a store, and explain consumerism and its effect on various levels of employees. (3-0) 3

MKT 4385 Service Marketing: Upon completion of this course, students should be familiar with the shift in our economy to the marketing of services and intangible products. Specific topics of this course include: profitability in the service organization, communications, pricing, marketing the service organization, and the design of the service product including the operation, environment, and personnel. (3-0) 3

MKT 4386 Marketing Research: Upon completion of this course, students should understand the role of marketing research, the stages of the research process, research designs for collecting primary data, measurement concepts, sampling and fieldwork, and data analysis and interpretation. Students will conduct a marketing research project utilizing a computerized database. (3-0) 3

MKT 4387 Public Relations: Upon completion of this course, students should understand the basic concept and history of public relations, public responsibility and professionalism in public relations, the principles of public relations management including defining and choosing goals and objectives, as well as budgeting for public relations, and legal constraints in public relations. In addition, students will study media, employee, community, and government relations dealing with consumers, environmentalists, minorities, and lobbying. Students will complete a public relations campaign. (3-0) 3

MRT – Health Information Technology

MRT 3201 Orientation to Health Information Technology: Upon completion of this course, students should be able to describe the duties and educational requirements of the major allied health professions; define the available credentials in health information management, methods for gaining and maintaining credentials, the role of the health information professional in the modern health care setting; explain the functions of the major departments of a hospital; define basic health care facilities and discuss the appropriate use of each; describe the structure of the AHIMA, its categories of membership and the role of membership in professional involvement; discuss the value of critical thinking skills in the work place and in personal growth and development; discuss the use of continuous quality improvement (CQI) strategies in the work place; define and demonstrate the ability to appropriately select and use common CQI tools such as flow charts, pareto charts and run diagrams. (2-0-0) 2

***MRT 3204 Directed Practice I:** This is the first in a series of three courses which provide supervised clinical learning experiences in local health care facilities. Students should be able to demonstrate competently the ability to communicate effectively with others, accept the personal responsibilities of promptness, personal neatness, and learning Departmental medical record procedures and practices, and apply the theory of medical record practices acquired in MRT 3300 and MRT 4312 by performing in accord with general hospital procedures.
*Prerequisite or corequisites: MRT 3300 and MRT 4312, or Departmental consent (0-0-6) 2

MRT 3300 Medical Record Content and Maintenance: Upon completion of this course, students should be able to describe common methods for filing and numbering records; demonstrate the ability to retrieve and file records in common systems; describe and plan for record storage using common storage media; discuss common record control measures; describe the value, use and basic content of the medical record; identify and describe the content of basic medical record forms; perform assembly and quantitative analysis on medical records; describe standard incomplete record procedures and discuss the importance of timely record completion; discuss basic computerized alternative methods for collection, storage, and retrieval of health information. (3-0-0) 3

***MRT 3301 Quality Assurance in Health Care Facilities:** Upon completion of this course, students should be able to state the purpose and philosophy of quality assurance activities in health care; discuss the impact of current health legislation on quality assurance; discuss the history and current status of quality assurance activities; describe the Peer Review Organization (PRO) and discuss the relationship of hospital quality assurance workers to the PRO; describe the role of the risk manager and discuss the relationship between quality assurance and risk management; relate JCAHO quality assurance standards to activities in the hospital in general and specifically as they concern health information; discuss the impact of the JCAHO's Agenda For Change on data collection and reporting; perform basic steps in completing a concurrent, problem-focused and retrospective audit.
*Prerequisite or corequisites: MRT 3300, MRT 4312, MRT 4315, or Departmental consent (3-0-0) 3

***MRT 3302 Basic ICD-9-CM Coding:** Upon completion of this course, students should be able to discuss the evolution of ICD-9-CM; define the symbols, abbreviations and conventions used with ICD-9-CM; apply the coding principles of ICD-9-CM with 80% accuracy; and code and retrieve diagnoses and procedures proficiently.
*Prerequisite: BIO 1504, BIO 1505, MED 3306, or Departmental consent. (2-2-0) 3

***MRT 3303 Advanced Coding Concepts**: Upon completion of this course, students should be able to apply ICD-9-CM principles in coding medical records using manual and computerized coding methods; develop procedures for quality control of coding; discuss the methods for indexing diagnoses and operations; index diagnoses and operations in manual and computerized systems; discuss the prospective payment system and its relationship to coding practices; define terms related to the prospective payment system; determine the diagnostic-related group number for a given sample of medical records using manual and computerized methods; discuss case mix and its relationship to facility reimbursement under prospective payment; discuss the purpose of nomenclatures and classification systems; and apply the coding principles of a variety of nomenclatures and classification systems, identifying the health care facilities utilizing each of the systems.
*Prerequisite: MRT 4408 or Departmental consent (2-2-0) 3

***MRT 3315 Computers in Health Care:** Upon completion of this course, students should be able to define and discuss common applications for basic mainframe, minicomputer, personal computer, local area network, wide area network, and communications equipment; demonstrate an understanding of the basic structure of computer files; make decisions concerning data definitions; discuss common uses for both general and specialized information systems in hospitals; apply cost-benefit analysis techniques to decision making regarding computerization; evaluate manual information processing systems to prepare a request for proposal and/or request for bid for computerized support; develop tools to facilitate evaluation of proposals and/or bids; evaluate demonstration software; discuss common hardware and software security requirements for computerized health care data systems; demonstrate the ability to plan for and provide effective training, periodic evaluation, training of personnel on computer systems; discuss the need for and common methods for maintaining security, application and system software.
*Prerequisite: EDP 3310 or Departmental consent (2-2-0) 3

***MRT 3414 Statistical Applications for Health Information Technology:** Upon completion of this course, students should be able to define terms related to health care statistics; compute a variety of common health care statistics; demonstrate proficiency in selecting and applying a variety of standard statistical techniques as a part of the problem solving process; discuss the procedures for completing vital records on birth, death, and reportable disease; discuss the sources and uses of health data; and demonstrate proficiency in the selection and construction of data displays.
*Prerequisite: MAT 1504 or Departmental consent (3-2-0) 4

***MRT 3424 Principles of Disease:** Upon completion of this course, students should be able to classify disease processes according to their etiology and organ system involvement, and discuss the physical signs and symptoms, complications, and preferred treatment of specific disease processes.
*Prerequisite: BIO 1504, BIO 1505, MED 3306, or Departmental consent (4-0-0) 4

MRT 4312 Legal Aspects of Health Information Technology: Upon completion of this course, students should be able to discuss the jurisdiction of the federal and state courts; discuss the development of legislative and case laws as they relate to changes in social mores; describe the rules written by non-governmental bodies which affect medical records; describe the property rights and ownership of patient specific health data; discuss the medical record as a legal document; discuss content, authorization and release of health data; describe statutes and hospital policies which govern the uses of health data; discuss the current health legislation which affects the medical record practitioner; and discuss the role of the AHIMA in monitoring and influencing legislation that affects health information. (3-0-0) 3

***MRT 4315 Medical Record Standards and Regulations:** Upon completion of this course, students should be able to identify the major accrediting and licensing agencies and to discuss the purpose of each; discuss the role of the JCAHO in maintaining hospital standards; cite health information and quality assurance standards set forth under hospital licensing, Medicare/Medicaid and JCAHO; discuss the physician credentialing process and the role of the health information professional in it; discuss the role of medical staff committees in meeting regulatory standards; and recognize basic standards for various hospital departments.
*Prerequisite: MRT 3300 or Departmental consent (3-0-0) 3

***MRT 4405 Health Information Technology Issues:** Upon completion of this course, students should be able to discuss the various personal and vocational responsibilities of the health information practitioner; analyze problems which are encountered as a health information practitioner and discuss solutions; discuss various sources of information and assistance which are available to the practicing health information professional; discuss the role of related health information professionals such as Certified Tumor Registrars and Certified Coding Specialists; and demonstrate preparedness for the national accreditation examination.
*Prerequisite: Seventh quarter standing or Departmental consent (4-0-0) 4

***MRT 4406 Directed Practice II:** Upon completion of this course, students should be able to demonstrate competent performance of health information technology functions in hospital medical record departments including compilation of statistical reports, coding for prospective payment, quality assurance, and utilization review; discuss work flow; prepare flow charts and work flow descriptions and procedures; compare procedures performed in hospitals of various sizes; describe the professional roles of health information technicians within a hospital; and demonstrate professional conduct.
*Prerequisite: Seventh quarter standing or Departmental consent (0-0-12) 4

***MRT 4407 Directed Practice III:** Upon completion of this course, students should be able to demonstrate competent performance of health information functions in various health care facilities, including mental health centers, group practice clinics, long-term care facilities, and others as available; describe and prepare flow charts and work flow descriptions in health care facilities; prepare job descriptions and procedures; compare procedures performed in hospitals to other health care facilities; and demonstrate professional conduct.
*Prerequisite: Seventh quarter standing or Departmental consent (0-0-12) 4

*MRT 4408 **Intermediate Coding:** Upon completion of this course, students should be able to apply the coding principles of ICD-9-C M with 85% accuracy; code and retrieve diagnoses and procedures proficiently; discuss the evolution of CPT coding; define the symbols, abbreviations and conventions used with CPT; apply the coding principles of CPT with 80% accuracy; and code and retrieve diagnoses and procedures proficiently.
*Prerequisite: MRT 3302 or Departmental consent (3-2-0) 4

Music, Applied (MUA)

Students must audition before the Music faculty to be permitted to register for any College Transfer Applied Music course. (See the list of Applied Music courses under College Transfer Courses on page 136.) Beginning 9000 level courses are also available for voice as well as for all of the musical instruments listed on page 136. An extra fee is required for all Applied Music courses. Registration for all these courses takes place in the Music Office (BR 104).

MUS – Music

MUS 1100 Vocal Ensemble: This performing laboratory will prepare students for public performance at the end of the quarter. Emphasis is upon sight-singing, demonstration and use of proper vocal techniques, tonal production, and ensemble performance. Each student will be given the opportunity to perform representative compositions from the major periods in music. (**Note:** This class may be repeated for six successful completions to meet degree requirements.) (0-3) 1

*MUS 1102 **Jazz Vocal:** Upon completion of this course, students should be able to sing solos in the style of Ella Fitzgerald, Sarah Vaughn, Jack Jones, Frank Sinatra, etc. and demonstrate some skills in scat singing and modern 4-part harmony. (**Note:** This course may be repeated for six successful completions to meet degree requirements.)
*Prerequisite: Ability to read music, along with reasonable relative pitch (0-3) 1

MUS 1104 Class Voice I: Upon completion of this course, students should be able to demonstrate correct posture, breathing, and support for the resonation of vowels; use proper diction; and perform selected pieces of song literature. (0-2) 1

MUS 1105 Class Voice II: Upon completion of this course, students should be able to perform from memory in recital an art song, aria, and other songs demonstrating an understanding of acceptable performance standards, musical styles, translations, and the use of the International Phonetic Alphabet. (0-2) 1

MUS 1107 Chamber Choir: This is a practical performing class designed to acquaint students with various styles of choral music which may culminate in a public performance. The program may vary each quarter depending upon vocal abilities and size and balance of the choir. Emphasis is placed upon correct tonal production, proper vocal techniques, sight-reading, ensemble performance, and repertoire. (**Note:** This class may be repeated for six successful completions to meet degree requirements.) (0-3) 1

MUS 1117 Wind Ensemble: This is an organization designed to provide the opportunity for wind instrument students to continue the study of their particular instruments and to become familiar, through ensemble performance, with music of various composers, periods, and styles. (**Note:** This class may be repeated for six successful completions to meet degree requirements.) (0-3) 1

MUS 1122 Fiddle—Blue Grass and Old-Time: Upon completion of this course, students should be able to tune and maintain their instruments, demonstrate a working knowledge of chords, play a minimum of ten songs, accompany other musicians, demonstrate the ability to read music. (0-3) 1

*MUS 1123 **Jazz Ensemble:** Upon completion of this course, students should be able to demonstrate, through performance, a better understanding of the styles of Big Band Jazz and the skills essential to participate in ensemble playing. (**Note:** This course may be repeated for six successful completions to meet degree requirements.)
*Prerequisite: An advanced knowledge of one's instrument and an audition (0-3) 1

MUS 1127 Orchestra: This is an organization designed to provide continuing performance opportunity for students who have already developed some skills on an orchestral instrument. Emphasis is placed on further development of each student's playing ability and an acquaintance with orchestral literature. (**Note:** This class may be repeated for six successful completions to meet degree requirements.) (0-3) 1

MUS 1128 Concert Band: This is an organization designed to provide performance opportunity for students who have already developed skills on a band instrument. Emphasis is placed on further development of skills on particular instruments as well as on acquaintance with band literature. (**Note:** This class may be repeated for six successful completions to meet degree requirements.) (0-3) 1

MUS 1132 Introduction to Sight-Singing and Ear Training: This is a class designed to acquaint students with the principles of solfege and pitch and rhythm organization. Upon completion of this course, students should be able to read and perform basic rhythmic notation, identify the key and perform simple pieces in solfege, understand the basics of printed music on the page. The ear training will occur as a result of listening to and labeling the intervals present in the sung music. (0-2) 1

MUS 1133 Banjo—Old-Time Music: Upon completion of this course, students should be able to tune the banjo in G, C, and C minor; use a capo for additional tunings; demonstrate the basic chord position in the three main tunings; play with a rhythmic clawhammer style including the drop thumb technique; coordinate left and right hands without difficulty; play selected tunes in the text from memory; demonstrate the ability to read tablature from the text. (0-3) 1

MUS 1136 Clawhammer Banjo II: Upon completion of this course, students should be able to play at least five tunings comfortably with the use of a capo, play the most common fingering patterns in each tuning, play traditional tunes up to tempo, play selected tunes from memory, demonstrate the ability to write simple tablature. (0-3) 1

MUS 1139 Old-Time Music "Jam": Upon completion of this course, students should be able to participate actively as a performer in an old time music "jam"; demonstrate skills in performing, both vocally and on instruments of their choice;

demonstrate poise and skill in leading the class in specific music; demonstrate an acquaintance with several kinds of "traditional" music. (0-3) 1

***MUS 1151 Improv Rhythm and Instrumental—Beginning:** Upon completion of this course, students should be able to demonstrate a better understanding of all forms of jazz styles such as Swing, Fusion, Ballads, Latin (Bossa Novas, etc.), and Rock. (**Note:** This course may be repeated for six successful completions to meet degree requirements.)
*Prerequisite: The equivalent of a high school education or consent of Department Head (0-3) 1

***MUS 1152 Improv Rhythm Section—Intermediate:** Upon completion of this course, students should be able to demonstrate through performance the ability to compete with most rhythm section players on a professional level with such musical presentations as Swing, Fusion, Ballads, Latin (Bossa Novas, etc.), and Rock. (**Note:** This course may be repeated for six successful completions to meet degree requirements.)
*Prerequisite: MUS 1151 or equivalent (0-3) 1

***MUS 1153 Improv Instrumental—Intermediate:** Upon completion of this course, students should be able to demonstrate in performance the ability to read and interpret jazz chords; to play 12 bar blues in standard keys; to analyze II, V^7, I chord progressions in all keys; to play in all jazz forms, i.e., Swing, Rock and Fusion; to play rhythm changes in standard keys; to play a ballad with proper inflection and interpretation. (**Note:** This course may be repeated for six successful completions to meet degree requirements.)
*Prerequisite: MUS 1151 or equivalent (0-3) 1

MUS 1154 Class Piano I: This is a course for beginning students taught through group instruction in an electronic piano laboratory setting. Upon completion of this course, students should be able to demonstrate rudimentary mastery of music reading as required for simple two-hand compositions in keys of C and G, and they should also be able to show technical development and theoretical understanding by playing major five-finger patterns beginning on white keys, and the chord progression I-IV-V^7 in the keys of C and G. Students provide their own headsets. (0-3) 1

MUS 1155 Class Piano II: This is a continuation of MUS 1154 in which students will demonstrate increased mastery of music reading, technical proficiency, and theoretical understanding as illustrated in their ability to play somewhat more advanced literature, as well as all major five-finger patterns, and scales using traditional fingerings in keys of C and G followed by the chord progression I - IV - V^7. Students provide their own headsets. (0-3) 1

MUS 1156 Class Piano III: This is a continuation of MUS 1155 in which students will demonstrate the ability to read and play more advanced literature and scales and chords in the keys of C, G, F, A minor, and D minor; play minor five-finger patterns; and show some mastery of the damper pedal. Students provide their own headsets. (0-3) 1

MUS 1157 Intermediate Piano I: Upon completion of this course, students should have developed skills in reading, technique, theory, and musicianship needed to play a number of pieces selected from standard piano literature. Students provide their own headsets. (0-3) 1

MUS 1158 Intermediate Piano II: Upon completion of this course, students should have developed skills in reading, technique, theory, and musicianship needed to play more complex pieces selected from standard piano literature. Students provide their own headsets. (0-3) 1

MUS 1160 Classical and Flamenco Guitar: Upon completion of this course, students should be able to read guitar music; play major and minor chords, some seventh chords; and perform selected solos by Bach, Beethoven, Torego, Aguado, and Lori. They should also be able to perform right- and left-hand classical technique Carcassi studies, right-hand studies in the tremolo technique, and flamenco strums and rasguados. (0-3) 1

MUS 1164 Guitar: Upon completion of this course, students should be able to read guitar music in the first position and to perform a selected number of guitar solos. They should also be able to play chords in the first position and be able to transpose to other selected keys. (0-3) 1

MUS 1165 Intermediate Guitar: Upon completion of this course, students should be able to read blocked and arpeggiated chords, demonstrate ability to play both a melody and accompanying arpeggio pattern, perform a selected number of etudes, arrange for solo guitar a song (or songs) to include melody with accompaniments, demonstrate increased ability to read single line. (0-3) 1

MUS 1166 Folk Music Guitar I: Upon completion of this course, students should be able to play a select number of basic chords, use different strumming techniques, play simple accompaniments of folk songs for singers, read simple folk music for guitar, and demonstrate a general knowledge of the instrument and its historical development. (0-3) 1

MUS 1167 Folk Music Guitar II: Upon completion of this course, students should be comfortable with their instruments and be able to join in informal "jam" sessions with other folk musicians using basic chords and notes. They should be able to play at an intermediate level and will have accumulated a sizeable collection of traditional folk music. (0-3) 1

MUS 1171 Chords I: Upon completion of this course, students should be able to translate standard chord symbols into notes and play them on the keyboard, supply the proper symbol for any given chord, and play from a lead sheet. (0-2) 1

MUS 1172 Chords II: Upon completion of this course, students should be able to interpret and play most standard lead sheets, reharmonize given melodies both in writing and on the keyboard, and play all chords in all inversions. (0-2) 1

MUS 1177 Appalachian Dulcimer: Upon completion of this course, students should be able to tune and properly maintain the Appalachian Dulcimer; demonstrate the ability to hold the dulcimer and to change chords by fretting all strings properly; demonstrate an understanding of rhythm, meter, and pitch; demonstrate skills in playing, strumming, flat-picking and finger-picking; demonstrate the ability to play from tablature and "by ear"; and demonstrate the ability to play simple melodies. (0-3) 1

MUS 1189 Autoharp: Upon completion of this course, students should be able to tune and properly maintain the autoharp; demonstrate the ability to hold the autoharp properly and to change chords with facility; demonstrate an understanding of rhythm, meter, pitch; demonstrate skills in playing, strumming, and picking patterns; demonstrate ability to play with music and "by ear"; and demonstrate skills necessary for basic melody picking. (0-3) 1

MUS 1304 Children's Music I: Upon completion of this course, students should be able to plan an age-appropriate music activity time for young children (ages infant to 10 years), display a working knowledge of the fundamentals of music, sing a variety of "Top 40" songs of early childhood, teach songs, use body percussion and homemade instruments, have developed a resource file of songs and materials, and know basics of rhythmic notation. The Early Childhood attendance policy will be enforced. (3-0) 3

***MUS 1305 Children's Music II:** This is a continuation of MUS 1304. In addition, students will display a working knowledge of pitch notation fundamentals, teach children, and do a research project.
*Prerequisite: MUS 1304 (3-0) 3

MUS 1310 Introduction to Music Theory: This is a beginning or refresher course for students with little or no keyboard background and prepares students for Music Theory I. Included are the fundamentals of music theory, notation, basic rhythmic patterns, major scales, intervals, and basic chord structure. Upon completion of this course, students should be able to demonstrate a better understanding of the basic principles and application of music theory. (3-0) 3

MUS 1314 Music Appreciation I: Upon completion of this course, students should have developed skills in basic listening and understanding of the art of music. Class material will introduce students to basic musical terminology and to form and music from the Middle Ages, Renaissance, and Baroque periods. This perspective should enable each student to be an informed listener. (3-0) 3

***MUS 1315 Music Appreciation II:** Upon completion of this course, students should have developed skills in basic listening and understanding of music from the Classical, Romantic, and Contemporary periods, as well as music from some non-Western cultures.
*Prerequisite: MUS 1314 (3-0) 3

MUS 1320 Music for Dancers I: Upon completion of this course, students should have developed skills in basic listening and understanding of the art of music. Class material will introduce students to basic musical terminology and to form and music from the Middle Ages, Renaissance, and Baroque periods. This perspective should enable each student to be an informed listener. (3-0) 3

***MUS 1321 Music for Dancers II:** Upon completion of this course, students should have developed skills in basic listening and understanding of music from the Classical, Romantic, and Contemporary periods, as well as music from some non-Western cultures..
*Prerequisite: MUS 1320 (3-0) 3

MUS 1324 Recording Studio Techniques I: Students will be introduced to the recording studio from an artistic and operational point of view. They will also learn the operation and function of audio consoles, microphones, multi-track recorders, echo chambers, and their relationship to the musician, sound engineer, and producer. (3-0) 3

***MUS 1325 Recording Studio Techniques II:** This course is a continuation of MUS 1324 with observation of multitrack recording and mix-down, mike placement and patch bay functions. Students participate as producers, musicians, singers, and back-up voices while the instructor directs their use of studio equipment.
*Prerequisite: MUS 1324 (0-6) 3

***MUS 1326 Recording Studio Techniques III:** This is the last in a series of three courses in Recording Studio Techniques. The course is predominantly a recording studio workshop whereby students are given the opportunity to create and produce music, operate the console and tape recorders, and exhibit creativity in phases in which they are most interested.
*Prerequisite: MUS 1325 (0-6) 3

MUS 1327 Recording Studio Techniques IV: (Computers and Synthesizers) This is a supplemental lecture course to Recording Studio Techniques I - III. Upon completion of this course, students should be able to demonstrate their knowledge of the use of computers and synthesizers in the recording studio. Topics will include history of synthesizers, synthesis techniques, MIDI, sequencing, digital audio, and console automation. (3-0) 3

MUS 1350 History of Rock and Roll: Upon completion of this course, students should be able to identify correctly specific styles and /or eras, as well as specific artists, and to explain the importance of the contributions of various performers, producers, and disc jockeys. Students should also be able to describe the historical, social, and commercial forces which influenced the various eras and their influences upon American Culture. (3-0) 3

***MUS 1404 Music Theory I:** This is an integrated course in which attention is given to harmony, sight-singing, dictation, and keyboard. The harmony deals with forming and recognizing all types of triads and the five most commonly used seventh chords with their inversions in both major and minor tonality.
*Prerequisite: MUS 1310 or consent of Department Head (3-2) 4

***MUS 1405 Music Theory II:** This course is a continuation of MUS 1404. Emphasis is placed on part-writing in three, four, and five voices using root position, first- and second-inversion triads; on analysis; and on more advanced work in sight-singing, dictation, and keyboard.
*Prerequisite: MUS 1404 (3-2) 4

***MUS 1406 Music Theory III:** This course is a continuation of MUS 1405. Harmony study includes consideration of nonchord tones and part-writing using all diatonic seventh chords. More advanced work is done on sight-singing, dictation, and keyboard.
*Prerequisite: MUS 1405 (3-2) 4

MUS 2100 Seminar in Music I: This is a lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours are variable. Contact: TBA, credit 1

MUS 2154 Advanced Class Piano I: Upon completion of this course, students should be able to play a number of technical studies, an appropriate individual piece, a group piece, and a hymn selected by the instructor. Particular attention will be given to the development of sight-reading and rhythmic skills. Students provide their own headsets. (0-3) 1

MUS 2155 Advanced Class Piano II: A continuation of MUS 2154, this course emphasizes technical development and mastery of music from several historical periods. Stu-

dents should be able to play an individual piece, a hymn, and a piece studied by the entire class. Continued attention is given to the development of sight-reading skills, rhythmic skills, and technique. Students provide their own headsets. (0-3) 1

MUS 2156 Advanced Class Piano III: This is a continuation of MUS 2155. Technical and pianistic problems are dealt with both individually and collectively, and the finer points of musicianship are addressed. Upon completion of this course, students should have mastered a group piece, appropriate technical exercises, and a hymn. They will also perform an individual piece. Students provide their own headsets. (0-3) 1

MUS 2158 Piano Ensemble: Designed for students having completed six or more quarters of piano, this class is an introductory study of piano literature requiring two or more persons performing on one or more pianos. Emphasis is upon ensemble performance, repertoire, sight-reading, and continued technique building. (Note: This course may be repeated for six successful completions to meet degree requirements.) (0-3) 1

***MUS 2169 Jazz Guitar:** Upon completion of this course, students should be able to harmonize a standard tune, play C major scale in 12 positions, and demonstrate basic understanding of chord/scale relationships through use of chord shapes.
*Prerequisite: Knowledge of 1st position C, A, G, E, D chords; barre chords; and major scale (0-3) 1

MUS 2200 Seminar in Music II: This is a lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours are variable. Contact: TBA, credit 2

MUS 2201 Business of Music: Upon completion of this course, students should be able to demonstrate a basic understanding, both orally and in writing, of Copyright Law; arrangements and abridgements of music; recording and songwriting contracts; agents and managers; performing rights organizations; and the musician's union. (2-0) 2

MUS 2202 Songwriting: Upon completion of this course, students should be able to write melodies with accompaniment; write an instrumental piece, specifically one for percussion; set one or more texts to music; and hear their own compositions performed in a concert. (2-0) 2

***MUS 2204 Special Problems in Music:** This is an advanced problems course in which the student will select a topic for independent study involving laboratory and library work.
*Prerequisite: Approval of Department Head (l-3) 2

MUS 2257 Jazz Piano I: Upon completion of this course, students should be able to construct jazz chords from written chord symbols on the keyboard, write these chords on manuscript paper, and be able to take a standard popular tune and reharmonize it according to certain basic rules. (l-3) 2

***MUS 2258 Jazz Piano II:** Upon completion of this course, students should be able to reharmonize standard public domain tunes and create introductions, endings, and modulations reflecting the state of the art.
*Prerequisite: MUS 2257 (l-3) 2

MUS 2300 Seminar in Music III: This is a lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours to be variable. Contact: TBA, credit 3

***MUS 2404 History and Literature of Music I:** This is a study of music from ancient times through the Renaissance. Upon completion of this course, students should be able to trace the development of music—its styles and forms—from ancient times through the Middle Ages and the Renaissance to 1600. Students should know the major composers and should be able to identify some specific works of music and/or forms.
*Prerequisite: The ability to read music (3-2) 4

***MUS 2405 History and Literature of Music II:** This is a study of music of the Baroque and Classical periods up to Beethoven. Upon completing this course, students should be able to describe the more important characteristics and forms, vocal and instrumental, of each period as represented especially in the works of Monteverdi, Corelli, Vivaldi, Bach, Handel, Haydn, Mozart, and should be able to identify some specific works.
*Prerequisite: The ability to read music (3-2) 4

***MUS 2406 History and Literature of Music III:** This is a study of the music of Beethoven and of the romantic and contemporary periods. Upon completion of this course, students should be able to trace the major musical developments through the nineteenth and twentieth centuries with respect to melody, rhythm, harmony, form, instrumentation. Students should be acquainted with a variety of music by the major romantic and contemporary composers and be able to describe and distinguish style characteristics of a number of composers.
*Prerequisite: The ability to read music (3-2) 4

***MUS 2407 Advanced Music Theory I:** This is a continuation of MUS 1406. Chromatic harmony is dealt with by way of secondary dominants and modulation. Phrases and periods are studied, and work is continued in sight-singing, dictation, and keyboard. Upon completion of this course, students should be able to write a piece which modulates to another key and to analyze the phrase structure.
*Prerequisite: MUS 1406 (3-2) 4

***MUS 2408 Advanced Music Theory II:** This is a continuation of MUS 2407. Chromatic harmony is studied further by way of diminished seventh chords. Two- and three-part forms are discussed, as well as advanced work in sight-singing, dictation, and keyboard. Upon completion of this course, students should be able to harmonize a modulating melody in baroque or classical style and to analyze the form of a simple work from those periods.
*Prerequisite: MUS 2407 (3-2) 4

***MUS 2409 Advanced Music Theory III:** This is a continuation of MUS 2408. Chromatic harmony is dealt with in ninth and altered chords, modulation to distant keys, and twentieth century styles. Overall form is studied, and work is continued in sight-singing, dictation, and keyboard. Upon completion of this course, students should be able to analyze harmonically and melodically works in traditional style and to write a piece incorporating the above in twentieth century style.
*Prerequisite: MUS 2408 (3-2) 4

Nursing - Associate Degree – See NUR

NUP – Nursing, Practical

***NUP 5304 Nursing Issues & Trends:** Upon completion of this course, students should be able to trace the historical

development of nursing, discuss trends and issues in nursing, recognize how the law and ethical standards influence the practice of nurses and nursing, discuss the roles and responsibilities of the licensed practical nurse, explore career options, discuss purpose and functions of selected nursing organizations, recognize the need for continuing education to improve competency in nursing knowledge and practice.
*Prerequisite: NUP 5011, EDP 3310
Corequisite: NUP 5506, NUP 5507 (3-0-0) 3

***NUP 5506 Pediatric Nursing:** Upon completion of this course, students should be able to utilize the nursing process as a basis for providing care for children from infancy through adolescence with medical/surgical conditions most commonly associated with children, identify stages of normal growth and development of children, compare the needs of the well child and the sick child, recognize biopsychosocial needs of the child, perform selected standardized skills accurately and document nursing actions, reinforce basic teaching according to specific learning needs.
*Prerequisite: NUP 5011, EDP 3310
Corequisite: NUP 5304, NUP 5507 (3-0-6) 5

***NUP 5507 Maternal and Infant Nursing:** Upon completion of this course, the students should be able to describe biopsychosocial principles and concepts related to the maternity cycle, utilize the nursing process in providing nursing care to the mother during all phases of the maternity cycle and in care of newborn, identify deviations in the normal maternity cycle and implement nursing interventions as directed, assist with patient-teaching during all phases of maternity cycle, identify legal and ethical issues associated with maternity care.
*Prerequisite: NUP 5011, EDP 3310
Corequisite: NUP 5506, NUP 5304 (3-0-6) 5

***NUP 5804 Fundamentals of Nursing:** Upon completion of this course, student should be able to define nursing and discuss the role of the nurse; describe the role and the responsibilities of the practical nurse and practical nursing student; recognize the legal and ethical basis of nursing; develop a basic working knowledge of the nursing process; develop basic physical assessment skills; identify safe parameters of nursing practice; develop an awareness the ways in which an individual responds to illness; describe biopsychosocial principles and nursing concepts related to basic health care; identify patient needs using Maslow's Hierarchy of Human Needs; identify specific developmental task and implications for nursing within each of Erikson's stages of development; identify factors basic to promoting therapeutic communication; identify guidelines for reporting and documenting appropriate patient information; perform selected standardized skills for assigned patients; provide a safe, therapeutic, and aesthetic environment; utilize the nursing process to meet basic health needs of hospitalized adult patients; record and report appropriate patient information; establish effective communication skills and interpersonal relationships; apply basic biopsychosocial principles and nursing concepts to patient care; and utilize legal and ethical principles as a basis for nursing actions; transfer knowledge of basic principles of nursing care gained in the classroom to patient care in the clinical setting.
*Prerequisite: Admission to program
Corequisites: NUR 3202, NUR 3303, NUR 3305 (6-0-6) 8

***NUP 5903 Care of Patients with Medical/Surgical Conditions I:** Upon completion of this course, students should be able to discuss disease producing factors and the responses they provoke; examine the special problems and needs of the geriatric patient; discuss the nursing care of patients with problems of immobility, fluid and electrolyte balance; identify disorders of the skin, musculoskeletal, endocrine-diabetes mellitus, hematologic, cardiovascular, eye, ear, and throat; explore biopsychosocial principles and nursing concepts associated with frequently occurring common medical-surgical conditions; emphasize pharmacological, nutritional and patient-teaching principles as vital aspects of the nursing process; perform selected standardized skills; administer oral, subcutaneous, topical medications to assigned patients; provide a safe, therapeutic and aesthetic environment; utilize the nursing process as a basis for providing care for adult patients experiencing frequently occurring common health needs related to specific medical-surgical conditions; document nursing actions and report appropriate patient information; establish effective communication skills and interpersonal relationships; apply basic psychosocial principles and nursing concepts to patient care; reinforce patient teaching; and utilize ethical and legal principles as a basis for nursing actions.
*Prerequisite: NUP 5804, NUR 3302, NUR 3305
Corequisite: BIO 1505 (4-2-12) 9

***NUP 5011 Care of Patients with Medical/Surgical Conditions II:** Upon completion of this course, students should be able to examine the special problems and needs of the patient having surgery; discuss the nursing care of adult patients with the following disorders: urinary, gastrointestinal, neurologic, endocrine, respiratory, male and female reproductive systems, and cellular proliferation; apply biopsychosocial principles and nursing concepts associated with common medical and surgical conditions; incorporate patient teaching, pharmacology, nutrition, and rehabilitative care into patient care management; discuss patient preparation for specific diagnostic and treatment measures; recognize the importance of providing for and maintaining support systems for both patient and family; incorporate knowledge of body image, self-concept and self-esteem into the nursing process; transfer knowledge learned from previous nursing and related courses to patient care; perform selected standardized skills; administer oral, parenteral and/or other medications to assigned patients; utilize physical and psychosocial safety measures in implementing care; utilize the nursing process as a basis for providing care for adult patients experiencing frequently occurring common health needs related to specific medical-surgical conditions; record and report appropriate patient care information; establish effective communication skills and interpersonal relationships; apply psychosocial principles and nursing concepts to patient care; reinforce patient teaching according to specific learning needs; utilize ethical and legal principles as a basis for nursing actions; and demonstrate increased ability to provide nursing care to assigned patients having more complex medical-surgical conditions that result in alterations in body homeostasis; demonstrate accountability when working with co-workers and patients.
*Prerequisite: NUP 5903, BIO 1505
Corequisite: EDP 3310 (5-0-15) 10

NUR – Nursing Associate Degree

***NUR 3216 Physical Assessment:** Upon completion of this course, students should be able to obtain a basic health history, assess the major body systems physically, differentiate

normal from abnormal assessment findings, and utilize physical assessment findings to develop a nursing plan of care and make appropriate nursing judgments.
*Prerequisite: NUR 3302, NUR 3505, NUR 3303
Corequisite: NUR 3714, BIO 1505 (2-0-0) 2

***NUR 3302 Fundamentals-Basic Skills:** Upon completion of this course, students should be able to demonstrate competency in performing common, basic and skilled nursing procedures that are utilized in providing care for those experiencing common alterations in health and wellness.
*Prerequisite: Admission to PN
Core Curriculum PN: ENG 1504, BIO 1504, PSY 1300
Admission to ADN program
Core Curriculum ADN: ENG 1504, BIO 1504, MAT 1504
*Corequisite: ADN - NUR 3305, NUR 3303, NUR 3505
PN - NUR 3305, NUR 3303, NUP 5804 (2-2-0)2

***NUR 3303 Pharmacology:** Upon completion of this course, students should be able to discuss state and federal laws regulating the use of drugs, demonstrate competency in computing drug dosage utilizing selected systems of measurements, classify drugs according to therapeutic purposes, discuss the various common drug forms, describe the nursing responsibilities associated with drug administration, utilize the nursing process relative to drug therapy.
*Prerequisite: Admission to ADN or PN program with completion of Core Curriculum as follows:
ADN - ENG 1504, BIO 1504, MAT 1504
PN: ENG 1504, BIO 1504, PSY 1300
*Corequisite: ADN - NUR 3305, NUR 3302, NUR 3505
PN - NUR 3302, NUR 3305, NUP 5804 (3-0-0)3

***NUR 3305 Nutrition:** Upon completion of this course, students should be able to identify the basic nutrients and basic nutritional needs of all age groups, recognize the need for and interpret modified diets, and demonstrate awareness of the role of the health care professional in relation to the dietary needs of patients.
*Prerequisite: BIO 1504
Corequisite: NUR 3505 (3-0-0) 3

***NUR 3505 Fundamentals of Nursing I:** This course introduces the fundamental concepts of nursing practice. Upon completion of this course, the student should be able to appreciate the role of the associate degree nurse, describe legal and ethical responsibilities of the nurse, begin to utilize the nursing process as framework for providing nursing care, examine life span developmental consideration of patients, explore the impact of culture and ethnicity on health and illness, utilize therapeutic communication skills, and begin to examine selected principles and practices of nursing care for patients with uncomplicated health problems. This course has two instructional components - theory and clinical practice.
*Prerequisite: Admission to the ADN program.
Completion of Core Curriculum: BIO 1504, MAT 1504, ENG 1504
*Corequisite: NUR 3305, NUR 3302, NUR 3303 (3-0-6)5

***NUR 3714 Care of the Adult Patient I:** This course is a progressive course integrating the knowledge gained in NUR 3505. This course introduces the student to the critical thinking skills necessary for nursing assessment and management of patients with uncomplicated commonly occurring health problems. Upon completion of this course, the student should be able to formulate a working knowledge of selected biophysical concepts related to health and illness, begin to rationally apply interpersonal technical and intellectual skills to the nursing care and management of patients, and begin to apply the nursing process to patient care based on priority of individual patient needs. This course has two instructional dimensions - theory and clinical.
*Prerequisite: NUR 3505, NUR 3305, NUR 3302, NUR 3303
Corequisites: NUR 3216, BIO 1505 (3-0-12) 7

***NUR 3815 Care of the Adult Patient II:** This course is a continuation of NUR 3714. This course requires that student apply critical thinking skills to the nursing assessment and management of patients with commonly recurring functional health problems. Upon completion of this course, the student should be able to integrate knowledge learned from previous nursing courses and related courses into the administration of safe nursing care, explore selected principles and practices of nursing care for patients at various points along the health-illness continuum, analyze patient needs based on biophysical manifestations and psychosocial needs, begin to explore the role of the nurse as facilitator of self-care and an active member of the health care team, and critically apply the nursing process as a framework for providing nursing care. This course has two instructional components - theory and clinical practice.
*Prerequisite: NUR 3714, NUR 3216, BIO 1505
Corequisites: HTL 3300, SPH 2310 (4-0-12) 8

***NUR 4104 Nursing Perspectives:** Upon completion of this course, students should be able to identify and discuss current issues in nursing; relate legal, professional, and ethical responsibilities to the practice of nursing; and identify the roles and responsibilities of the Associate Degree Nurse upon graduation.
*Prerequisite: NUR 4814, NUR 4815, NUR 4816
Corequisite: NUR 4804 (1-0-0) 1

***NUR 4515 Psychiatric Nursing:** Upon completion of this course, students should be able to integrate knowledge learned from previous nursing and related courses to provide effective nursing care to clients experiencing an alteration in mental health; apply the nursing process and integrate principles of therapeutic communication with these clients; analyze ethical and legal issues as they relate to the client experiencing an alteration in mental health, as well as explore these issues as they relate to the role of the nurse in the psychiatric mental health setting; identify behavioral deviation from normal and analyze factors contributing to these behaviors; define the levels of prevention in psychiatric mental health settings; develop an increase in self awareness as well as the ability to communicate effectively with clients and other health team members in the psychiatric mental health setting.
*Prerequisite: PSY 2514, NUR 3714, NUR 3216
Corequisite: PSY 2514 (4-0-12) 8

***NUR 4804 Advanced Care of the Adult Patient:** This is the final clinical course of the nursing curriculum. The focus of this course is nursing assessment and management of patients with complicated functional health problems. Upon completion of this course, the student should be able to synthesize knowledge gained in previous courses; recognize deviations from normal anatomy and physiology and appropriately respond with accurate, safe, rational nursing care; appreciate the role and responsibilities of the nurse in the provision of acute care management; utilize the nursing process as framework for prioritizing the health care needs of the acutely ill patient; examine the legal and ethical dilem-

mas associated with the provision of care to the acutely ill patient; critically apply interpersonal, intellectual and technical skills to the care of acutely ill patients and their families; recognize the various roles of the nurse in the health care setting - coordinator, facilitator, delegator and manager. This course has two instructional dimensions - theory and clinical.
*Prerequisite: NUR 3815, NUR 4814, NUR 4815, NUR 4816
Corequisites: NUR 4104 (4-0-12) 8

***NUR 4814 Maternal-Newborn Nursing:** Upon completion of this course, students should be able to utilize critical thinking skills to synthesize knowledge of fundamental nursing principles and practices and implement problem solving methods to provide nursing care to the childbearing family; differentiate normal from abnormal biopsychosocial processes in the childbearing client and newborn; apply the nursing process and develop a plan of care to provide comprehensive, quality nursing care for the normal and complicated childbearing client and newborn; and analyze the legal, ethical and moral climate of contemporary maternal-newborn nursing.
*Prerequisite: NUR 3714, NUR 3216 (4-0-12) 8

***NUR 4816 Nursing of Children:** Upon completion of this course, students will have expanded their use of the nursing process to provide care for children (infancy through adolescence) with common health problems in the acute care setting and to provide health care maintenance teaching for the pediatric patient and family.
*Prerequisite: NUR 3714, NUR 3216 (4-0-12) 8

Occupational Health, Safety and Environmental Technology – See HSE

Paralegal Technology – See LEX

PHI - Philosophy

PHI 1500 Introduction to Philosophy: This is a study of the human search for ultimate reality or truth as it has developed in Western civilization from 600 B.C. to contemporary times. Having completed the course, a student should understand some basic concepts of epistemology, logic, ethics, metaphysics, politics, and aesthetics; be familiar with some important philosophical positions regarding such topics as knowledge, free will, God, and good; and be better able to make decisions and frame a personal philosophy in light of the experience of the course. (5-0) 5

PHI 2500 Logic: This course is an intensive study of the methodology of reasoning, including principles of induction and deduction, with emphasis on deduction using symbolic logic. Upon completion of this course, students should be able to recognize the inconsistency in any given line of reasoning and construct a persuasive argument based on reliable information regarding the subject matter. (5-0) 5

PHY – Physics

***PHY 1404 Physics I—Basic Mechanics:** This is the first course in the introductory physics sequence designed to meet the needs and interests of students in technology programs and students working toward bachelor's degrees in areas other than engineering, mathematics, or physical science. Upon completion of this course, students should be able to demonstrate proficiency in the use of the International System of Units and have an understanding of the basic principles of linear motion, force, friction, energy, power, momentum and rotational dynamics.Their understanding will be demonstrated primarily by solving problems involving the fundamentals of these physical concepts.
*Prerequisite: A grade of C or better in MAT 1504 or MAT 3507, Mathematics Placement Test, or consent of Department Head (3-2) 4

***PHY 1405 Physics II—Elastic and Thermal Properties of Matter:** This is a continuation of PHY 1404 which includes the study of such topics as equilibrium, elastic models, fluid dynamics, simple harmonic motion, thermal properties of matter, gas laws, and heat transfer. During this course, students should master the terminology and the physical units used in these topics and be able to solve basic problems selected from these areas.
*Prerequisite: PHY 1404 or consent of Department Head (3-2) 4

***PHY 1406 Physics III—Electricity and Magnetism:** This is the third course in the introductory physics sequence. Topics included are static electricity, electric fields and potential, simple DC circuits, simple AC circuits, magnetism and electromagnetic induction. These topics are treated with both a qualitative and a problem-solving approach.
*Prerequisite: PHY 1404 or consent of Department Head (3-2) 4

***PHY 1407 Physics IV—Optics and Modern Physics:** This is the last of the introductory physics sequence and is an overview of the most significant discoveries in physics which have radically changed our views of nature since the nineteenth century. Beginning with general wave phenomena, the course progresses through em waves, physical optics, atomic structure, and a cursory treatment of the basics of quantum theory, relativity, and nuclear processes.
*Prerequisite: PHY 1406, or ELN 3515, or consent of Department Head (3-2) 4

PHY 1500 Introduction to Astronomy: This course introduces students to the historical development of astronomy, the basic tools and techniques of astronomy, and past and present cosmological models. Upon completion of this course, students should be able to use an astronomical coordinate system and a star map to locate a prominent astronomical feature; describe the relative locations, motions, and composition of the major components of the solar system; briefly describe major cosmological phenomena such as red shift, pulsars, super novae, etc. (4-2) 5

***PHY 2504 General Physics I—Mechanics:** This is the first of a four-course sequence designed primarily for students majoring in physical science, engineering, or mathematics. Upon completion of this course, students should be able to demonstrate an understanding of principles of kinematics, particle dynamics, energy and momentum, particularly through the solution of appropriate problems of a level requiring the use of calculus and vector analysis.
*Prerequisite: MAT 1524 or consent of Department Head (4-2) 5

***PHY 2505 General Physics II—Fluid Mechanics, Heat and Waves**: This is a continuation of General Physics I with emphasis on elastic properties of matter, fluid statics and dynamics, thermodynamics, kinetic theory, and wave mechanics. Calculus is used extensively.
*Prerequisite: PHY 2504 or consent of Department Head (4-2) 5

***PHY 2506 General Physics III—Electricity and Magnetism:** This is the third in the sequence of courses beginning with PHY 2504. Students completing this course should be able to solve rather rigorous problems in the areas of electrostatic fields, current electricity, and electromagnetic fields.
*Prerequisite: PHY 2505 or consent of Department Head (4-2) 5

***PHY 2507 General Physics IV—Optics and Modern Physics**: This is the fourth course in the General Physics sequence which is designed for students majoring in physical science, engineering, or mathematics. Upon completion of this course, students should be able to demonstrate conceptual understanding and the capability of solving problems involving electromagnetic waves, Maxwell's equations, geometric optics, optical spectra, relativity, quantum mechanics, and nuclear emissions.
*Prerequisite: PHY 2506, or a grade of B or better in PHY 1406 or ELN 3515, or consent of Department Head (4-2) 5

PHY 3414 Physics of Respiratory Care: Students completing this course should have an overview of basic principles related to properties of matter, energy, heat, gas laws and basic electricity, with particular emphasis on application to Respiratory Care. (3-2) 4

PHY 5304 Applied Physics I: This is an introductory course in physics and its application, covering systems and measurement and properties of solids, liquids, and gases. Emphasis is placed upon basic principles of electricity and magnetism. The production, transmission, distribution, measurement, and specific application of electrical energy also constitute major areas of study. Upon completion of this course, students will have demonstrated an acceptable level of understanding by passing a series of mastery quizzes designed to cover each of the topics listed. (2-2) 3

***PHY 5305 Applied Physics II:** This is a continuation of PHY 5304. Principles of force, motion, work, energy, power, and mechanical advantage are treated extensively. The production and transmission of heat and its conversion into work is also covered. Student mastery testing is again employed.
*Prerequisite: PHY 5304 (2-2) 3

Physical Education - See HPE

PME – Small Engine Repair

PME 5211 Small Engine Repair I: Upon completion of this course, students should be able to describe the basic operation of two-stroke and four-stroke cycle, air-cooled engines; describe and service at least two types of magneto ignition systems and carburetion systems; and perform decarboning service on heads of air-cooled engines. (1-3) 2

***PME 5214 Small Engine Overhaul:** Upon completion of this course, students should be able to describe and perform service on most small, air-cooled, two- or four-stroke cycle engines. This service will include disassembly and reassembly, measuring components for wear, servicing valves, resizing cylinders, and replacing bearings and bushings.
*Prerequisite: PME 5211 (1-3) 2

POL – Political Science

POL 1502 American Politics: Students will analyze the three branches of American national government and the ways in which they interact with each other and with political parties, interest groups, and the electorate in political decision-making. (5-0) 5

POL 1510 Comparative Politics: Students will compare and contrast decision making in several Western and non-Western, industrial and less developed, democratic and authoritarian political systems; their study will emphasize politics in Britain, France, Germany, China, and that area formerly known as the Soviet Union. (5-0) 5

POL 1511 International Relations: Students will analyze the effects on international war and peace of various causes including nationalism and the nation-state, armament and alliances, regional cooperation and the United Nations, as well as economic development and world trade. (5-0) 5

***POL 2104-2504 Special Topics in Political Science:** Students will examine particular topics of political interaction and decision making in areas not covered in standard courses. Course objectives vary with the subject matter studied.
*Prerequisite: Consent of instructor and Department Head (1 to 5 hrs. class/week—1 to 5 hrs. credit)

POL 2500 State and Local Politics: Students will analyze politics in the states and localities emphasizing changing budget priorities and declining resources, problems of the big cities, the rise of the suburbs, the decline of Southern sectionalism, and reform issues in contemporary politics. (5-0) 5

POL 2501 Political Ideologies: Students will explain the functions of political ideology and describe the beliefs and practice of communism, socialism, fascism, capitalism, and democracy. They will also survey new and evolving ideologies of ethnic, sexual, and religious liberation. (5-0) 5

Postal Service Technology – See PSM

PRN – Graphic Arts, Printing

***PRN 4204 Graphic Arts Cooperative Work Experience II:** This course is a continuation of PRN 5207 Graphic Arts Cooperative Lab I.
*Prerequisite: PRN5207 and completion and acceptance by Program Director and completion of Work Experience Registration Approval Form (0-20) 2

PRN 4311 Printing Sales: Upon completion of this course, students should be able to plan and prepare for a sales interview with a client; describe proper procedures in dealing with a client and associates in the printing industry; describe the system of selling by objectives; describe the importance

of physical fitness and proper grooming; write effective business letters; describe the proper use of audiovisuals in selling; demonstrate a familiarity with the printing processes, printing supplies, trade customs and ethics; describe proper procedures for credit collections. (3-0) 3

***PRN 4337 Color Reproduction I:** Upon completion of this course,students should be able to explain both additive and subtractive color theory; describe both conventional and digital color manipulation, identifying both strengths and weaknesses; list and describe the major proofing methods used for process color; produce a color separation that is printable.
*Prerequisite: PRN 5320, PRN 5435,PRN 5315, PRN 5425 (2-2) 3

***PRN 4401 Printing Applications III:** This is a continuation of PRN 5410. Upon completion of this course, students will have completed tasks of a more complex nature in the following areas: layout and paste-up of mechanical art; planning a detailed method of production; shooting line, halftone, and special effects copy; stripping, making plates, operating press and bindery equipment. Students will produce commercial quality printed pieces.
*Prerequisite: PRN 5700 and permission of the Program Director (2-4) 4

***PRN 5207 Graphic Arts Cooperative Work Experience I:** Upon completion of this course, students should be able to apply the skills learned in the graphic arts classroom and lab to actual working situations in the graphic arts industry.
*Prerequisite: Permission of the Program Director and completion of Work Experience Registration Approval Form (0-20) 2

PRN 5301 Printing Management: Upon completion of this course, students should be able to describe the structure of the management levels in a company; discuss management skills and leadership traits of first-line supervisors or small shop managers; describe production control, proper purchasing of supplies, quality control, and material handling.(3-0) 3

***PRN 5303 Printing Planning and Production:** Upon completion of this course, students should be able to plan the production of a printed job from desktop publishing through bindery and finishing. Emphasis will be placed on logic and abstract planning skills. Students will learn the tools of production planning and statistical process control including dummy preparation, impositions, folds, scaling, measurement in customary, SI and pica systems, 24-hour-decimal time, page proportions, and copyfitting. In addition, students will learn the tools of quality control and production measurement. The importance of record keeping, averages, graphs and charts and economic considerations will also be covered. A budgeted hourly cost system will be explained. Outside reading and projects will be assigned as a regular part of the class.
*Prerequisites: MAT 3325 (3-0) 3

PRN 5310 Substrates and Ink: Upon completion of this course, students should be able to state the characteristics of the major classifications of paper and other substrates, describe how paper and ink are manufactured and distributed, describe and give solutions to paper and ink related problems on the press, select paper and ink properly matched to the customer's specifications. (3-0) 3

***PRN 5313 Desk Top Publishing III:** This is a continuation of PRN 5317. Upon the completion of this course, students should be able to identify and describe various applications of electronic publishing and its relation to graphic arts; operate hardware in a desktop publishing system using advanced pagination software; produce completed projects including graphics and text; demonstrate an ability to insert text and pages; place, format, and apply tracking and tabs to fit copy; modify leading; create and use master pages; lay out a grid, and set column horizontal and vertical guidelines; set application defaults; produce and place reverse type; place Encapsulated PostScript and TIFF graphics; define colors; prepare and print spot-color separations; set application defaults; flow text into different columns and wrap it around graphics; create and apply style sheets; create headlines that span several columns; create and print double-sided documents; create fold and crop marks; save documents as templates; and rotate text blocks.
*Prerequisite: PRN 5317 (2-2) 3

PRN 5314 Process Camera I: Upon completion of this course, students should be able to describe the purpose and function of photomechanical photography and its equipment and materials; set up and operate a process camera shooting line and halftone copy; use a densitometer, the diffusion transfer process and process photography filters. (2-2) 3

***PRN 5315 Process Camera II:** This is a continuation of PRN 5314. Upon completion of this course, students should be able to shoot line and halftone copy of a more difficult nature; and do special effects photography including duotones, dropout halftone, special effects and screen color separations properly. Students will be introduced to desktop scanning of halftones and duotones.
*Prerequisite: PRN 5314 (2-2) 3

PRN 5316 Screen Printing I: Upon completion of this course, students should be able to use correctly all basic materials of screen printing; prepare hand-cut film stencils, photo direct and photo indirect stencils; print on at least two different surfaces; describe the differences in the technique and materials used in printing on different materials; describe the different uses of screen printing; describe the use of machines and automated equipment in industrial screen printing.(2-2) 3

PRN 5317 Desk Top Publishing I: Upon completion of this course, students should be able to start up correctly, operate and close down a desk top computer and laser printer; use the menus, mouse, keyboard, and available software tools and functions to produce graphic images that include pictorial and typographical elements; enter, proofread, and edit text; demonstrate an ability to apply typographic and design principles to the execution of computer generated graphics; and understand selected terms pertaining to typesetting, publishing, and software. (2-2) 3

***PRN 5319 Desk Top Publishing II:** This is a continuation of PRN 5317. Upon completion of this course, students should be able to identify and describe various applications of electronic publishing and its relation to graphic arts; operate hardware in a desk top publishing system using basic pagination software; produce completed projects including graphics and text; demonstrate an ability to insert text and pages; place, format, and apply tracking and tabs to fit copy; modify leading; create and use master pages; layout a grid, and set column horizontal and vertical guidelines; set application defaults; produce and place reverse type; place Encapsulated PostScript and TIFF graphics; define colors; prepare and print spot-color separations; set application defaults; flow text into different columns and wrap it around graphics; create and apply style sheets; create headlines that span several

columns; create and print double-sided documents; create fold and crop marks; save documents as templates; and rotate text blocks.
*Prerequisite: PRN 5317 (2-2) 3

***PRN 5320 Desk Top Publishing IV:** Upon completion of this course, students should be able to explain the use of computerized prepress as it is used in the graphic arts industry; and be able to use a desk top computer to perform advanced graphic design techniques in conjunction with pagination, color separation, stripping for offset, and image manipulation.
*Prerequisite: PRN 5317 (2-2) 3

***PRN 5364 Fundamentals of Offset Printing:** This course is designed to give Commercial Art students a basic understanding of printing. At the completion of this course, students should be able to produce line and halftone negative, strip combination flats, make plates, print a simple production job.
*Prerequisites: VCO 4304, VCO 4305, VCO 4415 (2-2) 3

PRN 5365 Image Assembly I: Upon completion of this course, students should be able to describe and demonstrate various methods of image assembly; strip line and halftone combinations; make dylux and color proofs; strip multi-color work with two, three, and four overlapping screen tints; step and repeat an image; expose and process various types of offset plates. (2-2) 3

PRN 5369 Introduction to Graphic Arts: Upon completion of this course, students should be able to list and describe the major printing processes; describe the phases a piece of printing goes through in the production process; describe the duties performed by those employed at various stages of production, management and sales; describe the graphic arts industry in the local area. (3-0) 3

***PRN 5371 Printing Applications I:** Upon completion of this course, students should have attained additional skills in the following areas: layout and paste-up of mechanical art; planning a detailed method of production; shooting line, halftone and special effects copy; stripping; making plates; operating press and bindery equipment. Students will produce quality printed pieces.
*Prerequisites: PRN 5317, PRN 5314, PRN 5365, PRN 5401, PRN 5424 and the permission of the Program Director (2-2) 3

***PRN 5390 Individual Study:** This course provides students with the opportunity to develop a special program of studies to fit a particular need not met by other courses during the second year of study. Enrollment provides access to the resources and facilities of the entire institution. Each student works under the supervision of a sponsoring staff member.
*Prerequisite: Approval of the sponsor and the Program Director is required along with an application to take the course. (3-0) 3

PRN 5401 Copy Preparation Technology I: Upon completion of this course, students should be able to produce camera ready paste-up, use the common tools and materials found in copy preparation, produce simple and complex mechanicals using key line art work and overlays, describe the relationship of copy preparation with the rest of the printing process. (2-4) 4

***PRN 5403 Copy Preparation Technology II:** This is a continuation of PRN 5401. Upon completion of this course, students should be able to complete paste-up mechanicals and camera-ready art of a more difficult nature.
*Prerequisite: PRN 5401 (2-4) 4

***PRN 5409 Color Reproduction II:** This is a continuation of PRN 4337. Upon completion of this course, students should be able to explain color theory as it relates to process printing, produce color separation both conventionally and digitally, perform basic color correction and manipulation, produce four color printed documents from prepared separations.
*Prerequisite: PRN 4337 (2-4) 4

PRN 5410 Flexography I: Upon completion of this course, students should be able to describe and perform procedures in flexography press operation, make ready, press setup, and die cutting. The students will learn to take press measurements, to make plates, to mount plates and to obtain print quality in flexography press operation. Students will be required to operate a flexography press to produce a satisfactory printed piece. (2-4) 4

***PRN 5411 Flexography II:** This is a continuation of PRN 5410. Upon completion of this course, students should be able to print projects of a complex nature on a narrow web press. The student will learn how to troubleshoot press problems, match color, and print on different substrates. Students will also be introduced to a wide web flexography press with emphasis on parts identification, make ready, and press setup required to print a simple job.
*Prerequisite: PRN 5410 (2-4) 4

***PRN 5412 Printing Applications II:** This course will emphasize the production steps required in the printing plant to produce a printed job. The graphic artist will learn troubleshooting techniques and how to deal with limitations in costs and materials through communication between departments at each phase of production. The student will be required to produce a project involving all the production phases from design through bindery/finishing. Lectures, demonstrations, and guest lectures will be used in this class.
*Prerequisite: PRN 5371 (2-4) 4

PRN 5424 Offset Press Operation I: Upon completion of this course, students should be able to describe and perform procedures in press make-ready including determining correct measurements for packing, mounting of plates and blankets; set the feeder, delivery, dampener rollers, ink, fountain solution, and pH; operate duplicator to produce a satisfactory printed piece; identify and describe the various types of bindery operations including book bindery, finishing operations in packaging, padding and other general bindery procedures. (2-4) 4

***PRN 5425 Offset Press Operation II:** This is a continuation of PRN 5424. Upon completion of this course, students should be able to print projects of a complex nature, identify and correct problems during press run, control the register of color printing.
*Prerequisite: PRN 5424 (2-4) 4

***PRN 5435 Image Assembly II:** This is a continuation of PRN 5424. Upon completion of this course, students should be able to make up flats for larger offset presses, composite negatives, strip duotones and process color, work with

spreads and chokes, identify various methods of stripping a printed piece to produce the desired finished product, work with more involved and difficult stripping projects.
*Prerequisite: PRN 5365 (2-4) 4

PSC – Law Enforcement Technology

PSC 3303 Motor Vehicle Laws of North Carolina: Upon completion of this course, students should be able to apply the provisions of North Carolina General Statute Chapter 20 toward its intended purpose: to protect the lives and property of persons using the streets and highways of North Carolina. (3-0) 3

PSC 3500 Introduction to Criminology: Upon completion of this course, students should be able to identify and describe the major theories of crime causation, the major crime prevention programs, the major treatment programs, and should be able to identify the major researchers in the field of criminology. (5-0) 5

PSC 3501 Introduction to Law Enforcement: Upon completion of this course, students should be able to identify at least 80 major concepts related to the history of law enforcement; identify the purpose of at least 25 law enforcement agencies operating in North Carolina; from a list of at least 18 specific crimes, identify the law enforcement agency with jurisdiction; recognize at least 34 current practices of law enforcement agencies and/or personnel; and identify the purpose of at least 10 federal law enforcement agencies. (5-0) 5

PSC 3504 Crime Scene Technology: Upon completion of this course, students should be able to protect life and property at a crime scene; protect, preserve, and photograph a crime scene; search the crime scene for evidence; maintain chain of custody in handling of physical evidence; and demonstrate proficiency in the use of specialized equipment in collecting, identifying, and processing physical evidence. (4-2) 5

PSC 3510 Criminal Law: Upon completion of this course, students should have a practical approach to the substantive law and should have a sound introduction to legal theory, have a basic knowledge of the common law, identify and define elements of crimes, understand how basic concepts function to determine the law, and be able to identify and define legally recognized defenses. (5-0) 5

PSC 3514 Police Organization and Administration: Upon completion of this course, students should be able to depict the organization of a police agency within the guidelines of sound organizational principles; recognize effective administrative functions; formulate a budget; and write a staff study, emergency plan, standard operating procedure, and a general order. (5-0) 5

PSC 4312 Organized Crime: Upon completion of this course, students should be able to identify organized crime families in the U. S., recognize the effects of organized crime, identify the agencies and efforts utilized to reduce the impact of such crime in this country, and identify successful efforts in fighting organized crime. (3-0) 3

PSC 4501 Constitutional Law: Upon completion of this course, students should be able to identify, define, and apply statutory rules and standards in the area of arrest, search and seizure, and they should possess an understanding of the landmark cases under the state and federal constitutions, particularly the Fourteenth Amendment. (5-0) 5

PSC 4503 Law Enforcement Psychology: This course is designed to examine the process of human personality development and the pathology of mental illness within the context of contemporary law enforcement practices. Students will learn how to apply basic principles of psychology in the analysis of various problems encountered by law enforcement professionals in the performance of their duties. Also, relevant legal and ethical issues will be discussed. (5-0) 5

***PSC 4504 Criminal Procedure and Rules of Evidence:** Upon completion of this course, students should be able to display and demonstrate workable knowledge and skill in criminal procedure and rules of evidence and demonstrate a generally desired and accepted practice of courtroom decorum. This includes North Carolina Code of Pretrial Criminal Procedure, Appellate Review, the role of the presiding judge, judicial notice, impeachment and corroboration, examination, competency and privilege in general, transactions with persons since deceased or insane, circumstantial evidence, character, real evidence, evidence illegally obtained, opinion, expert testimony, hearsay, admissions, confessions, burden of proof, and presumptions.
*Prerequisite: PSC 3410, PSC 4501, or Departmental consent (5-0) 5

PSC 4505 Criminal Investigation: Upon completion of this course, students should be able to maintain an accurate notebook; define the accepted procedures for interviews, interrogations, admissions, confessions, and written statements; define the accepted procedures for developing and maintaining informants; identify sources of information; define accepted procedures for undercover operations and surveillance; define accepted procedures for the investigation of specific offenses; define specific forensic procedures and applications; and identify laws and case laws applicable to criminal investigation. (5-0) 5

***PSC 4506 Advanced Crime Scene Technology:** Upon completion of this course, students should be able to sketch a mock crime scene; photograph a mock crime scene; process a mock crime scene for latent fingerprints, biological fluids, ballistics evidence, and trace evidence; be 100% complete in gathering physical evidence in a mock crime scene; process a mock crime scene for tool marks; prepare the physical evidence for transport to a crime lab; present, in a mock trial, all evidence found at the mock crime scene; and withstand cross-examination in presenting evidence in mock trial.
*Prerequisite: PSC 3504 or Departmental consent (4-2) 5

PSC 4510 Law Enforcement Operations: Upon completion of this course, students should be able to define the purpose of police patrols; define the types of patrol; define the types of communications; define the accepted procedures for observation, perception, note taking, report writing, identification and description of persons and property, field interrogation, stopping of vehicles and control of occupants, use of personal protective weapons, techniques and tactics by type of call; perform a stop and frisk; and complete an affidavit and search warrant. (5-0) 5

PSC 4516 Executive Protection and Terrorism: Upon completion of this course, students should be able to define the history of terrorism; be familiar with the infrastructure of current terrorist organizations, including their objective, philosophy, and techniques; define the current practices of executive protection; and, in a given situation, construct a plan for executive protection. (5-0) 5

PSC 4517 Principles of Interviewing and Interrogation: Through class lecture, discussion and role play exercises, students will learn the theoretical and practical applications of strategies, tactics and techniques employed by law enforcement professionals during interviews and interrogation. Also, relevant legal and ethical issues will be examined. (5-0) 5

PSC 4520 Public Relations In Law Enforcement: Upon completion of this course, students should be able to define the focus and overall purpose of public relations, list 25 positive benefits of effective public relations for criminal justice agencies, list 35 negative aspects of faulty public relations for criminal justice systems, define the power and influence of public opinion, identify major problems in public relations as related to the criminal justice mission, identify factors which foster effective and affective public relations, identify examples of conserving favorable public opinion, and identify common ways of sampling public opinion. (5-0) 5

PSC 4530 Community-Oriented Policing: This course is designed to familiarize the student with the philosophical and technical aspects of community-oriented policing. The primary differences between community-oriented policing and traditional policing will be examined through lectures, reading assignments, field trips, guest speakers, role-play exercises and problem analysis. Emphasis will be placed on illustrating the effectiveness of community policing strategies when applied by local, state and federal law enforcement agencies. (5-0) 5

PSC 5501 Basic Law Enforcement Training (BLET): This course is the sole requirement of the Basic Law Enforcement Certificate. The BLET is a course mandated by the North Carolina Criminal Justice Training and Standards Commission for all persons entering the criminal justice field in sworn officer positions. The course contains extensive classroom and field type training in areas ranging from constitutional law to physical fitness. The course content and duration is set by the Commission and is subject to change annually. The course in 1993 required a minimum of 506 contact hours and awarded 26 credit hours. The course, when offered, requires sponsorship of a law enforcement agency for entry. Thirteen hours of credit is earned toward the Law Enforcement Technology Associate degree program.

PSM – Postal Service Technology

PSM 3300 Postal Service History and Organization: Upon completion of this course, students should be able to trace the delivery of written communication and merchandise from earlier eras to the present; depict and compare the private, corporate, and governmental agencies which have been responsible for mail service; define the current postal organization as mandated by Public Law 91.375; trace and explain postal philosophies, policies, procedures, rules and regulations of the current organization; and demonstrate an understanding of the history and organization of the Postal Inspection Service. (3-0) 3

PSM 3301 Postal Service Labor Relations: This course presents an overview of laws and practices as related to Labor Management in the Postal Service. Upon completion of this course, students should be able to discuss the development of labor unions of Postal Service employees with emphasis on national and local agreements, the various bargaining units and associations in the U.S. Postal Service, the grievance procedures, the disciplinary action procedures, and the National Labor Relations Board. (3-0) 3

PSM 3304 Processing and Distribution: Upon completion of this course, students should be able to explain and interpret mail classifications and rates, service standards, postal terminology, the four functions of mail processing, distribution systems, mail processing objectives and responsibilities, the mail preparation operation, manual distribution, revenue protection, and bulk mail centers . (3-0) 3

PSM 3305 Postal In-Plant Support: Upon completion of this course, students should be able to explain and interpret postal mechanization, machine distribution, human resources management in mail processing, reporting systems and data analysis, operational planning, scheduling and staffing, budgeting, and functional coordination with customer services. (3-0) 3

PSM 4301 Postal Service Finance: Upon completion of this course, students should be able to explain how postal revenue is received and controlled, the procedures of the Board of Governors and the Postal Rate Commission, and the Postmaster General's Annual Report, as well as budgeting, financial accounting and reporting, time keeping, travel regulations, and Administrative Services. (3- 0) 3

PSM 4320 Postal Human Resources: Upon completion of this course, students should be able to explain the functions of the Personnel Office in relation to the services it provides for postal employees, including policies and practices concerning selection, placement, training, promotion of employees, self-development training programs, EEO practices, insurance and retirement benefits, awards programs, salary schedules, and safety and health. (3-0) 3

PSM 4321 Postal Officer In Charge Training: This course is designed to provide students with an in-depth knowledge of all services provided for postal customers. Upon completion, students should be able to explain effective customer relations, retailing postal products, and non-postal services including professional window service operations and the duties of customer service representatives. (3-0) 3

PSM 4330 Postal Delivery and Collection: This course is designed to provide a functional knowledge of mail delivery and collection systems within the Postal Service through the use of two management training programs: "Method Improvement Plan/Standard Operating Procedures" and "Route Inspections and Evaluations." Upon completion, students should be able to state and explain the duties, responsibilities, and skills required in the Carrier Crafts and the Management of Rural Delivery Service. (3-0) 3

PSM 4331 Postal Function Four Review: Upon completion of this course, students should be able to conduct a cleri-

cal staffing and scheduling audit. The review can be critical not only to meeting the aggressive budgets in LDC 4 but also in providing good, efficient service to the public. Students will be able to use the Postmaster Fact Sheet in conducting the reviews, to complete an allied Labor Schedule, and to figure productivity rates. (3-0) 3

PSM 4332 Postal Service Safety Training: Upon completion of this course, students will be able to identify principles of safety in the guarding of equipment and machines in the U.S. Postal Service, explain the principles of Job Safety Analysis, demonstrate knowledge of the highlights of the Occupational Safety and Health Act (OSHA), demonstrate a working knowledge of current practices and problems relating to health hazards pertinent to the U.S. Postal Service, and complete all necessary record keeping and forms used by the U.S. Postal Service in documenting accidents. (3-0) 3

PSY – Psychology

PSY 1300 The Self and Society: Students will demonstrate an increased awareness of their own values, beliefs, and behaviors as well as the values, beliefs and behaviors of others. Through knowledge and experience, students will develop their abilities to work as members of groups and work with people who are different from themselves. Students will have an increased understanding of American culture and society so that they are able to participate more effectively in their personal and professional lives. (3-0) 3

PSY 1500 Psychology of Adjustment: Upon completion of this course, students should be able to identify various stress situations encountered in life and strategies useful in meeting these situations. Areas of adjustment which will be emphasized are self-concept, assertive and aggressive behavior, interpersonal relations, stress, and abnormal behavior. (5-0) 5

***PSY 2136-2536 Special Topics in Psychology:** A number of selected topics will be presented to the class for examination and evaluation. Each student will complete a research project in an area of special interest, upon approval by and under the direction of the instructor.
*Prerequisite: Consent of Department Head and instructor
(1-5 hrs. class/week—1 to 5 hrs credit)

PSY 2500 Educational Psychology: Upon completion of this course, students should demonstrate knowledge of learning, motivation and development as these relate to classroom teaching. Students should also demonstrate a knowledge of testing, evaluation and assessment. (5-0) 5

PSY 2504 General Psychology: This is a course designed to introduce students to the discipline of psychology. Upon completion of this course, students should demonstrate knowledge of the basic concepts of psychology, the use of these concepts as employed by the major theorists, and the practical and therapeutic application of these concepts. (5-0) 5

***PSY 2505 Human Development:** Upon completion of this course, students should demonstrate knowledge of the physical, psychological, social, and intellectual development of humans from conception to death.
*Prerequisite: PSY 2504 (5-0) 5

***PSY 2514 Abnormal Psychology:** Upon completion of this course, students should be able to identify the major forms of mental illness as described in the DSM III, the etiology of mental illness and the preferred methods of treatment.
*Prerequisite: PSY 2504 (5-0) 5

PTH – Physical Therapist Assistant

***PTH 3202 Physical Therapy Issues:** Upon completion of this course, students should be able to review articles from professional publications, research patient-related topics utilizing a variety of acceptable references, and present relevant research content to classmates and/or other health professionals in a number of presentational styles.
*Prerequisite: PTH 3508, PTH 3302, PTH 3705
Corequisites: PTH 3801, PTH 3509 (2-0-0) 2

***PTH 3302 Pathology II:** Upon completion of this course, students should be able to describe normal development of the musculoskeletal system and related tissues; compare and contrast pathological changes with normal changes in structure and function occurring throughout the lifespan; and identify etiology, signs, symptoms, complications, treatment options, and prognoses for various orthopedic conditions of the upper extremity, skull, and trunk which may be experienced by patients throughout the lifespan and treated by physical therapy practitioners.
*Prerequisite: PTH 3507, PTH 3405, PTH 3605
Corequisites: PTH 3508, PTH 3705 (3-0-0) 3

***PTH 3405 Pathology I:** Upon completion of this course, students should be able to describe normal development of the musculoskeletal system and related tissues; compare and contrast pathological changes with normal changes in structure and function occurring throughout the lifespan; and identify etiology, signs, symptoms, complications, treatment options, and prognoses for various lower extremity orthopedic conditions experienced by patients throughout the lifespan and treated by physical therapy practitioners.
*Prerequisite: All non-PTH courses required in curriculum
Corequisites: PTH 3507, PTH 3605 (4-0-0) 4

***PTH 3507 Kinesiology I:** Upon completion of this course, students should be able to identify all bones of the lower extremity; describe and demonstrate lower extremity joint actions; identify the major muscles of these actions, their bony attachments and nerves; offer comparisons of expected strengths of joint actions; perform accurate goniometric measurement of lower extremity joint motions; identify, describe, and reproduce the components of normal gait; and perform manual muscle testing of selected muscles/actions.
*Prerequisite: All non-PTH courses required in curriculum
Corequisites: PTH 3405, PTH 3605 (3-4-0) 5

***PTH 3508 Kinesiology II:** Upon completion of this course, students should be able to identify all bones of the upper extremity, skull, and trunk; describe and demonstrate upper extremity joint actions, as well as movements of the trunk and temporomandibular joint; identify the major muscles of these actions, their bony attachments and nerves; offer comparisons of expected strengths of joint actions; perform accu-

rate goniometric measurement of upper extremity joint motions; and perform manual muscle testing of selected muscles/actions.
*Prerequisite: PTH 3507, PTH 3405, PTH 3605
Corequisites: PTH 3302, PTH 3705 (3-4-0) 5

***PTH 3509 Patient Care Skills III:** Upon completion of this course, students should be able to discuss various pain control theories; identify etiology, signs, symptoms, complications, treatment options, and prognoses for various conditions of the cardiovascular, pulmonary, and integumentary systems; describe a comprehensive treatment program for the patient with an amputation; and competently perform various treatment techniques for conditions studied, including electrical stimulation techniques, intermittent venous compression, cardiopulmonary physical therapy, ultraviolet radiation, wound care, and therapeutic exercise.
*Prerequisite: PTH 3508, PTH 3302, PTH 3705
Corequisites: PTH 3801, PTH 3202 (3-4-0) 5

***PTH 3605 Introduction to Patient Care Skills:** Upon completion of this course, students should be able to describe the development, preparation, and roles of physical therapy personnel, relating those to other health care practitioners; discuss and describe legal and ethical practice; discuss infection control policies and issues related to architectural barriers and accessibility; and demonstrate basic aseptic techniques, safe transfer techniques using proper body mechanics, proper bed positioning, gait training techniques using various assistive devices, performance of therapeutic soft tissue techniques, and ability to obtain the vital signs of temperature, pulse, respiration, and blood pressure.
*Prerequisite: All non-PTH courses required in curriculum
Corequisites: PTH 3507, PTH 3405 (2-8-0) 6

***PTH 3705 Patient Care Skills II:** Upon completion of this course, students should be able to demonstrate competence in the application of therapeutic heating and cooling modalities, range of motion exercises and stretching, strengthening exercises, traction, and various exercise protocols for conditions studied previously or concurrently; explain the rationale, expected physiological effects, and indications/contraindications for the techniques studied; and integrate previously-learned knowledge/skills with newly-acquired knowledge/skills.
*Prerequisite: PTH 3507, PTH 3405, PTH 3605
Corequisites: PTH 3508, PTH 3302 (3-8-0) 7

***PTH 3706 Patient Care Skills IV:** Upon completion of this course, students should be able to discuss etiology, signs, symptoms, complications, and prognoses for various neurological and neuromuscular conditions experienced throughout the lifespan and treated by physical therapy practitioners; and identify and proficiently administer the components of comprehensive treatment programs for conditions studied, appreciating the contributions and rationale of a variety of treatment approaches.
*Prerequisite: PTH 3801, PTH 3509, PTH 3202
Corequisites: PTH 4324, PTH 4201 (3-8-0) 7

***PTH 3801 Clinical Education I:** During systematically planned and supervised clinical learning experiences in a health care facility, students who complete this course should be able to accept the personal responsibilities of promptness, personal neatness, and learning of Departmental procedures and practices; develop and maintain positive rapport with patients and staff; provide assigned patient treatments competently, ethically, and with efficient use of time; communicate effectively with others; relate theory and principles to treatments performed; and utilize available time for learning and self-improvement.
*Prerequisite: PTH 3508, PTH 3302, PTH 3705
Corequisites: PTH 3509, PTH 3202 (0-0-24) 8

***PTH 4201 Community Health and Welfare:** Upon completion of this course, students should be able to describe a community of interest in solving problems of a health or welfare nature, identify and describe some governmental and social influences upon the development of our current health and welfare system, identify at least five referral sources possibly available to a person in need of those services, develop an understanding of current medical/legal and medical/ethical issues, and intelligently monitor rapidly changing health and welfare issues in the future.
*Prerequisite: PTH 3801, PTH 3509, PTH 3202
Corequisites: PTH 4324, PTH 3706 (2-0-0) 2

***PTH 4324 Psychology of Adjustment:** Upon completion of this course, students should be able to identify a variety of personality traits, recognize the value of utilizing various coping mechanisms by both the sick and the well, participate effectively in interpersonal relations as related to various stress situations, demonstrate recognition of the need for behavioral adjustments by both the health worker and the patient, and relate the experience of another in adjustment to a disability.
*Prerequisite: PTH 3801, PTH 3509, PTH 3202
Corequisites: PTH 4201, PTH 3706 (3-0-0) 3

***PTH 4606 Clinical Education II:** During systematically planned and supervised clinical learning experiences in a health care facility, students who complete this course should be able to accept the personal responsibilities of promptness, personal neatness, and learning of Departmental procedures and practices; develop and maintain positive rapport with patients and staff; provide assigned patient treatments competently, ethically, and with efficient use of time; communicate effectively with others; relate theory and principles to treatments performed; and utilize available time for learning and self-improvement.
*Prerequisite: PTH 4324, PTH 4201, PTH 3706
Corequisite: PTH 4607 (0-0-18) 6

***PTH 4607 Clinical Education III:** During systematically planned and supervised clinical learning experiences in a health care facility, students who complete this course should be able to accept the personal responsibilities of promptness, personal neatness, and learning of Departmental procedures and practices; develop and maintain positive rapport with patients and staff; provide assigned patient treatments competently, ethically, and with efficient use of time; communicate effectively with others; relate theory and principles to treatments performed; and utilize available time for learning and self-improvement.
*Prerequisite: PTH 4324, PTH 4201, PTH 3706
Corequisite: PTH 4606 (0-0-18) 6

RDN – Reading See page 47.

REA – Real Estate Appraisal

***REA 4381 Introduction to Real Estate Appraisal (R-1):** This course introduces students to the subject of real estate appraisal and prepares them for the R-2 course on "Valuation

Principles and Procedures." It begins with coverage of basic real property law, followed by coverage of the various concepts of value and the operation of real estate markets. Relevant mathematical concepts are then reviewed and the student is introduced to statistical concepts used in appraisal practice. Next comes coverage of real estate financing terminology and practices, followed by an introduction to the basics of residential construction and design. Students are then provided an overview of the entire valuation (appraisal) process, and the course concludes with specific coverage of residential neighborhood analysis and property analysis, two of the most important preliminary steps in the appraisal process.
*Prerequisite: RES 3601, or satisfactory completion of a sales prelicensing course approved by the NC Real Estate Commission, or a current NC real estate license (3-0) 3

***REA 4382 Valuation Principles and Procedures (R-2):** This course focuses on the procedures (methodology) used to develop an estimate of property value and how the various principles of value relate to the application of such procedures. Emphasis is on appraisal of residential 1-4 unit properties and small farms; however, all the concepts and procedures covered are applicable to the appraisal of all types of properties. The course begins with a review of the appraisal process and proceeds into thorough coverage of the sales comparison approach, followed by site valuation methods used to appraise residential 1-4 unit properties. The cost approach is then covered in depth. The basic concepts and methodology associated with the income approach are covered, with emphasis on direct capitalization using an overall rate and the gross rent multiplier technique. Finally, students are introduced to the process of reconciling property value estimates obtained through application of the approaches to value.
*Prerequisite: REA 4381 or satisfactory completion of an equivalent appraisal course approved by the NC Real Estate Commission (3-0) 3

***REA 4383 Applied Residential Property Valuation (R-3):** This course covers laws, rules and standards which must be followed by appraisers and focuses on the application of principles and procedures to the appraisal of residential 1-4 unit properties and small farms. Students are first acquainted with federal laws / regulations applicable to appraisers and the provisions of the North Carolina Real Estate Appraisers Act and related Commission Rules. Then, students are introduced to the Uniform Standards of Professional Appraisal Practice (which are part of the Commission's Rules), followed by coverage of appraisal reports, with emphasis on standard report forms. Students participate in a comprehensive case study of an appraisal of a single-family house using the URAR form. Instruction is provided on various special considerations in appraising other types of residential 1-4 unit properties and in appraising farms. Finally, students are introduced to appraising special (partial) property interests and to condemnation appraisals.
*Prerequisite: REA 4382 or satisfactory completion of an equivalent appraisal course approved by the NC Real Estate Commission (3-0) 3

***REA 4385 Introduction to Income Property Appraisal (G-1):** This course introduces concepts and techniques used to appraise real estate income properties. It begins with a discussion of underlying economic principles and motivations for investing in income property. The appraisal process is reviewed with emphasis on income property. This is followed by a discussion of real estate market analysis, property analysis, and site valuation. Mathematical and statistical concepts used in the appraisal of income property are covered, followed by coverage of how to use financial tables and/or financial calculators to solve a variety of problems associated with analysis of real estate income properties, including present value, loan calculations, estimation of net operating income, and estimation of before tax cash flow. Students learn how to estimate the value of a real estate income property by using a gross income multiplier and by direct capitalization with an overall rate. Finally, they are introduced to other capitalization rates.
*Prerequisite: REA 4383 or satisfactory completion of an equivalent appraisal course approved by the NC Real Estate Commission (3-0) 3

***REA 4386 Advanced Income Capitalization Procedures (G-2):** This course reviews and then expands on the concepts introduced in Course G-1. The direct capitalization techniques introduced in G-1 are expanded to include various band of investment and residual techniques used in income property appraisal. This is followed by a thorough discussion of the concepts of yield rates and of discounted cash flow analysis (yield capitalization), which is the primary focus of the course. Financial leverage is also discussed so students better understand the relationship between various yield rates and capitalization rates. Several traditional yield capitalization formulas including Inwood, Hoskold, Ellwood and Akerson are then discussed. Although rendered obsolete by the advent of financial calculators, these formulas are still used by many appraisers, and students should be familiar with them. A financial calculator is required for this course.
*Prerequisite: REA 4385 or satisfactory completion of an equivalent appraisal course approved by the NC Real Estate Commission. (3-0) 3

***REA 4387 Applied Income Property Valuation (G-3):** This course covers laws, rules and standards which must be followed by appraisers and focuses on the application of principles and practices to the appraisal of income properties. The course begins with a review of federal laws/regulations applicable to appraisers, followed by coverage of the North Carolina Real Estate Appraisers Act and Related Commission Rules, and coverage of the Uniform Standards of Professional Appraisal Practice (which are part of the Commission's Rules). Preparation of narrative appraisal reports is covered, with students also being introduced to the Uniform Commercial and Industrial Appraisal Report (UCIAR) form. Coverage then shifts to appraising leased income properties, with emphasis on the effect of various lease provisions on the value estimate. Students participate in highest- and best-use case studies, followed by case studies of appraisals of various development projects.
*Prerequisite: REA 4386 or satisfactory completion of an equivalent appraisal course approved by the NC Real Estate Commission (3-0) 3

Recreation – See HPE

RES – Real Estate

RES 3601 Fundamentals of Real Estate (Sales Prelicensing): This course provides students with basic knowledge and skills necessary for entry-level sales and assists students to prepare for the state real estate sales licensing examina-

tion. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, as well as the ability to solve practical situational and mathematical problems based thereon: basic real estate concepts, property ownership and interests, transfer of title to real property, title assurance and property descriptions, land use controls, real estate brokerage and the law of agency, fair housing legislation, basic contract law, listing contracts and contracts for the sale of real estate, landlord and tenant and leases, NC Real Estate License Law, Commission Rules/Regulations and Trust Account Guidelines, mortgages, deeds of trust and real estate financing practices, closing real estate transactions, basic residential building construction, real property valuation, real estate management, property insurance, and federal income tax implications of home ownership. (6-0) 6

***RES 4284 Cooperative Work Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-op Office
(2-0) 2

***RES 4301 Real Estate Law (Broker Prelicensing):** This course provides students with knowledge of real estate law necessary for entry-level real estate brokers. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, as well as the ability to solve practical situational and mathematical problems based thereon: introduction to real estate law; property ownership interests, including real estate taxes; transfer of title to real property; land use controls; real estate brokerage and the law of agency; real estate contracts, landlord and tenant; federal income taxation of real estate; License Law; Commission Rules/Regulations and Trust Account Guidelines; securities law; and closing real estate transactions.
*Prerequisite: RES 3601, or completion of a sales prelicensing course approved by the NC Real Estate Commission, or a current NC real estate license, or consent of Department Head
(3-0) 3

***RES 4302 Real Estate Finance (Broker Prelicensing):** This course provides students with knowledge of financing real estate transactions necessary for entry-level real estate brokers. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, as well as the ability to solve practical situational and mathematical problems based thereon: financing instruments, types of mortgage loans, sources of mortgage funds, the secondary mortgage market, loan underwriting, consumer legislation affecting real estate financing, and real property valuation.
*Prerequisite: RES 3601, or completion of a sales prelicensing course approved by the NC Real Estate Commission, or a current NC real estate license, or consent of Department Head
(3-0) 3

***RES 4303 Real Estate Brokerage Operations (Broker Prelicensing):** This course provides students with the basic practical knowledge of real estate brokerage operations necessary to enable entry-level real estate brokers to operate or manage a real estate brokerage practice in a manner which protects and serves the public interest. In order to complete the course, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, as well as the ability to solve practical situational and mathematical problems based thereon: introduction to real estate brokerage operations, establishment of a brokerage firm, management, personnel operations, records and bookkeeping system, and financial operations.
*Prerequisite: RES 3601, completion of equivalent prelicensing courses approved by the NC Real Estate Commission, or a current NC real estate license, or consent of Department Head
(3-0) 3

***RES 4311 Residential Real Estate Sales:** This course is designed to help residential real estate brokerage students prepare to achieve high listing and sales productivity. Upon completion of this course, students should be able to set realistic personal productivity goals; establish a personal time-management system, describe methods for obtaining and servicing listings, including farming and FSBO cultivation; write ads and understand advertising strategies; develop a marketing plan; describe methods to obtain prospective buyers; qualify buyers; demonstrate proper telephone techniques; describe techniques for showing properties, obtaining purchase offers and closing sellers; and explain how to build a personal referral service.
*Prerequisite: RES 3601, or completion of a sales prelicensing course approved by the NC Real Estate Commission, or current NC real estate license, or consent of Department Head
(3-0) 3

RES 4315 Governmental Land Use Controls: This course surveys regulations of great importance in the development and use of land. It helps brokers and sales agents learn how to obtain and provide purchasers reliable information on purposes for and conditions under which land may be used. Upon completion of this course, students should be able to state the principal functions of the local planning commission and departments of zoning, building standards and environmental health, and other agencies involved in controlling land use; discuss the contents and implementation of county long-range plans, zoning and subdivision ordinances, and other regulations of land use; explain procedures for obtaining zoning amendments, variances and special use permits; and state how to determine the uses for which a given tract of land may be developed and the kinds of improvements permitted and required on it. (3-0) 3

RES 4371 Real Estate Property Management: This introductory course surveys the management of rent-producing retail, office, and apartment properties to achieve investment objectives of client owners. Upon completion of this course, students should be able to describe the management industry and profession; estimate financial benefits to property owners; illustrate utilization of the management plan; explain the manager's relations with client owners; discuss marketing, leasing, and tenant administration; describe techniques for staffing, operating, and maintaining properties; and discuss the basics of operating a management office, locating clients, and negotiating management contracts. (3-0) 3

***RES 4391 Commercial and Industrial Real Estate:** This course is designed to help students gain knowledge in selling, leasing, and managing commercial and industrial real estate. The real estate practitioner should acquire increased professional understanding of commercial and industrial development and marketing and of brokerage office operations. Upon completion of this course, students should be able to discuss and explain those unique characteristics of commercial and industrial properties which are of importance from the viewpoints of users, investors, lenders, developers, and community planners; demonstrate decision-making ability in situations applicable to selecting, leasing, investing capital, developing, marketing and managing commercial and industrial properties; and show an understanding of brokerage office operations.
*Prerequisite: RES 3601, or completion of a sales prelicensing course approved by the NC Real Estate Commission, or a current NC real estate license, or consent of Department Head (3-0) 3

***RES 4393 Real Estate Investment Analysis:** This course is designed to help students acquire knowledge and skill in analyzing investment. It includes demonstration of applications of a personal computer. Upon completion of this course, students should be able to do the following in connection with a particular investment property: specify the date and information needed to carry out an investment analysis; estimate projected gross income to, operating expenses for, and net operating income to the property; estimate effects of tenant improvement and lease commission; estimate effects of ordinary income tax and a mortgage to obtain annual income; estimate proceeds of sale after capital gains tax; and calculate annual return percent.
*Prerequisite: RES 3601, or completion of a salesman prelicensing course approved by the NC Real Estate Commission, or a current NC real estate license, or consent of Department Head / A financial calculator is required. (3-0) 3

***RES 4395 Commercial Real Estate Finance:** This course is designed to help students and practicing professionals gain knowledge in assembling, analyzing, and presenting requests for the financing of commercial real estate projects. The real estate practitioner should acquire increased professional understanding of the analytical methods and techniques utilized in commercial real estate finance, as well as a working knowledge of the factors involved in a request for financing a project. Upon completion of this course, students should be able to assemble information necessary and sufficient for preparing a satisfactory loan presentation package; analyze the data to ascertain project feasibility and insure completeness; prepare a presentation request for a commercial real estate loan; and attain, through negotiation and interviewing techniques, a degree of comfortable competence in assisting the borrower to present the loan request to the lending institution.
*Prerequisite: RES 3601, or completion of a sales prelicensing course approved by the NC Real Estate Commission, or a current NC real estate license, or consent of Department Head (3-0) 3

Real Estate Appraisal – See REA

RTH – Respiratory Care Technology

***RTH 3204 Pathology and Physical Diagnosis:** Upon completion of this course, students should be able to recognize and discuss the etiology, pathology, lab findings, and clinical manifestations of the various types of pulmonary carcinomas; discuss the physiologic alterations of the lung caused by extra-pulmonary sources; explain and list conditions of the nervous system which could lead to respiratory failure; recognize and list causes of ARDS; explain the pathology and clinical findings in disorders of pulmonary diseases due to mycobacteria; explain the different immunologic diseases of the lung; discuss the nutritional status of critical care patients; recognize normal and abnormal lab values; explain and dis cuss the general pathologic process of renal failure.
*Prerequisite: RTH 3302
Corequisite: RTH 3702 (2-2-0) 3

***RTH 3302 Introduction to Pathology and Physical Diagnosis:** Upon completion of this course, students should be able to define terms used in respiratory pathology and diagnosis; use a stethoscope to identify normal and abnormal breath sounds and make clinical correlations; recognize normal anatomical landmarks and common abnormalities associated with chest radiographs; demonstrate knowledge of anatomy of upper and lower airway; gather pertinent information from a patient's chart to include history, physical exam, and laboratory data; describe the technique and uses of diagnostic procedures including sputum exam, endoscopy, bronchoscopy, pulmonary angiography, lung scanning, computerized tomographic scanning, pulmonary function studies, arterial blood gases; and list and describe diseases of the upper respiratory tract; recognize and discuss the etiology, pathology, lab findings, and clinical manifestations of infectious diseases of the lower respiratory tract including viral, mycoplasma, and bacterial pneumonias; explain the pathology of chronic obstructive and restrictive pulmonary diseases.
*Prerequisite: RTH 3601, HLT 3300
Corequisites: RTH 3602 (2-0-0) 2

***RTH 3305 Respiratory Pharmacology:** Upon completion of this course, students should be able to apply general principles of pharmacology terminology and mechanisms of drug action; use current reference standards; read and interpret a prescription; compute dosages, determine ratios and percent, and prepare solutions of airway dilators; describe the pharmacology of mucokinetic substances, their preparation, and method of administration; list and describe antibiotics used in the treatment of pulmonary infections; explain the pharmacologic effects of drugs commonly seen in overdose situations; explain the mechanism of action and list commonly used muscle relaxants; explain the mechanism of action and list commonly-used drugs affecting central respiratory centers, including commonly-encountered drugs producing sedation, hypnosis, anesthesia, and stimulants; diagram or otherwise discuss normal renal function and explain mechanism of action of commonly-used diuretics; and discuss corticosteroids in respiratory care.
*Prerequisite: RTH 3601
Corequisite: RTH 3602 (3-0-0) 3

***RTH 3601 Introduction to Respiratory Care:** Upon completion of this course, students should be able to describe the major developments in medicine and science as they relate to the historical aspects of respiratory care; list and describe the professional and accrediting organizations; explain the roles and responsibilities of the various respiratory care practitioners; use the English and metric systems of measurement interchangeably; read a patient chart; utilize physical laws describing the behavior of gases applicable to respiratory care; recognize, evaluate, and recommend methods of treating oxygenation abnormalities; assemble, operate, and supply

equipment used to administer medical gas therapy; and describe the functions and interdependence of the cardiovascular and respiratory systems.
*Prerequisite: Admission to Respiratory Care Technology program (4-0-6) 6

***RTH 3602 Respiratory Care Procedures I:** Upon completion of this course, students should be able to identify clinical situations and properly apply humidity and aerosol devices with associated oxygen-delivering capabilities; describe normal mucus clearing mechanisms; discuss normal humidification by airway; assemble and compare nebulizers and humidifiers and discuss their function; describe hazards associated with humidity and aerosol therapy; deliver, monitor, and evaluate aerosolized pharmacologic agents to patients with and without artificial airways; discuss types of and correct procedure for administering incentive breathing devices; list indications and contraindications of bronchopulmonary drainage, chest percussion and chest vibration; and correctly perform the basic steps of physical examination to include reviewing and gathering data from patient record, inspection and palpation and auscultation.
*Prerequisite: RTH 3601, BIO 1505 (2-4-6) 6

***RTH 3702 Respiratory Care Procedures II:** Upon completion of this course, students should be able to read and interpret results from arterial blood gas analysis, perform and evaluate methods of bronchopulmonary drainage, identify and use artificial airways, manage the airways of patients requiring artificial airways, recognize complications and describe procedures designed to prevent complications of patients with artificial airways, complete a comparative assessment of and use manual resuscitators, calibrate and use selected gas analyzers, and become certified by the AHA in basic cardiac life support.
*Prerequisite: RTH 3602
Corequisite: BIO 3404 (2-4-9) 7

***RTH 4415 Equipment for Continuous Ventilation:** Upon completion of this course, students should be able to classify selected ventilators; discuss compliance and how it relates to ventilator performance; list and describe the cycling mechanism and mode of operation of selected ventilators; trace gas flows from power source to patient in selected ventilators; describe a protocol for the cleaning and sterilization of selected ventilators; list testing procedure for selected ventilators prior to patient use; discuss indications, hazards implementation and methods of monitoring IPPB therapy.
*Prerequisite: RTH 3702
Corequisite: RTH 4814 (2-4-0) 4

***RTH 4417 Neonatal and Pediatric Respiratory Care:** Upon completion of this course, students should be able to compare fetal and neonatal cardiopulmonary anatomy and physiology, list maternal risk factors, describe newborn scoring systems, relate the events of birth in terms of ventilation and perfusion, describe indications and techniques for neonatal resuscitation, list the common causes of acute respiratory failure in neonates, discuss the rationale of ventilatory support in neonates, review considerations in stabilizing and transporting neonates, write a case report, delineate the special respiratory care needs of children, and list the common causes of acute respiratory failure in children.
*Prerequisite: RTH 4814
Corequisite: RTH 4724 (2-0-6) 4

***RTH 4504 Pulmonary Function I:** Upon completion of this course, students should be able to measure and evaluate static and dynamic lung function including the following tests: volumes, capacities, flow rates, diffusion capacity, and dead space to tidal volume ratio; describe and evaluate tests of small airway function; classify and describe a quality control protocol for spirometers, gas analyzers, and pH/blood gas analyzers; explain the rationale and techniques of polysomnography; describe tests of airway reactivity; describe normal and abnormal responses to exercise; explain techniques of exercise testing; formulate a smoking cessation program; and become certified by the American Heart Association as an instructor in Basic Cardiac Life Support.
*Prerequisite: RTH 4724
Corequisite: RTH 4606 (2-0-9) 5

***RTH 4606 Clinical Application I:** Upon completion of this course, students should be able to initiate, conduct, and modify prescribed respiratory care procedures in any patient care setting (infant, pediatric,and adult/critical and non-critical/ hospital and home); maintain patient records and communicate relevant information to members of the healthcare team; discuss the ethical considerations of respiratory care; and outline a program of cardiorespiratory rehabilitation.
*Prerequisite: RTH 4504, RTH 4608
Corequisite: RTH 4607 (2-0-12) 6

***RTH 4607 Clinical Application II:** Upon completion of this course, students should be able to initiate, conduct, and modify prescribed respiratory care procedures in any patient care setting (infant, pediatric, and adult/critical and non-critical/hospital and home); maintain patient records and communicate relevant information to members of the healthcare team; discuss the ethical considerations of respiratory care; and outline a program of cardiorespiratory rehabilitation.
*Prerequisite: RTH 4504, RTH 4608
corequisite: RTH 4606 (2-0-12) 6

***RTH 4608 Pulmonary Function II:** Upon completion of this course, students should be able to measure and evaluate static and dynamic lung function including the following tests: volumes, capacities, flow rates, diffusion capacity, and dead space to tidal volume ratio; describe and evaluate tests of small airway function; classify and describe a quality control protocol for spirometers, gas analyzers, and pH/blood gas analyzers; explain the rationale and techniques of polysomnography; describe tests of airway reactivity; describe normal and abnormal responses to exercise, and explain techniques of exercise testing; formulate a smoking cessation program; and become certified by the American Heart Association as an instructor in Basic Cardiac Life Support.
*Prerequisite: RTH 4724
Corequisite: RTH 4504 (2-2-9) 6

***RTH 4724 Continuous Ventilation:** Upon completion of this course, students should be able to demonstrate critical thinking skills by being able to identify and assess patients requiring mechanical ventilation, recommend and initiate a therapeutic plan, evaluate the patient's response and make modifications utilizing current modalities of ventilation and oxygenation.
*Prerequisite: RTH 4415
Corequisite: RTH 4417 (3-2-9) 7

***RTH 4814 Introduction to Emergency and Intensive Respiratory Care:** Upon completion of this course, students

should be able to monitor correctly parameters of ventilation; implement selected therapeutic procedures in critical care units; demonstrate ability to establish, maintain, and recognize normal and abnormal data associated with invasive cardiovascular procedures; discuss and relate the pharmacologic effects of cardiovascular agents; recognize and discuss normal ECG patterns and basic cardiac arrhythmias; perform endotracheal intubation on an adult and infant model; obtain and analyze an arterial blood sample; demonstrate ability to maintain and monitor established airways.
*Prerequisite: RTH 3702, BIO 3404 (3-2-15) 8

RUS – Russian

RUS 1600 Elementary Russian I: Upon completion of this course, students should be able to use the Cyrillic alphabet, the basic declension of nouns, pronouns, and adjectives, and some conjugations of verbs. With a knowledge of some basic vocabulary, students should be able to apply these constructions in simple, grammatically correct sentences orally, as well as in written composition. Students should be able to translate simple sentences from Russian into English and English into Russian. (5-2) 6

***RUS 1601 Elementary Russian II:** By the end of this continuation of Elementary Russian, students should be able to use basic vocabulary and grammar to read, to translate orally, and to write basic sentence patterns from Russian to English and English to Russian at the first-year level. They should also be able to converse in simple sentences.
*Prerequisite: RUS 1600 or equivalent (5-2) 6

SCI – Science

SCI 3300 Principles of Science: Upon satisfactory completion of this course, the student will be able to describe the scientific method and its relationships to technology and society, demonstrate the use of metric and English measurements, explain the relationships of physical laws to technology, demonstrate the application of mechanical and electrical concepts with their equivalent in modern physics, and write short descriptions of the various conservation laws and their applications to technology. (3-0) 3

SEC – Secretarial/Office Information Systems

SEC 3102 Legal Secretarial Seminar: Upon completion of this course, the student will be able to identify employment opportunities in the legal area, will be able to handle routine filing and other routine office procedures in the law office, will be able to locate all law-related buildings, and will be able to recognize law office attire. (1-0) 1

SEC 3104 Electronic Calculators: Upon completion of this course, students will be able to operate ten-key electronic calculators using the touch system. Functional keys, special feature keys, and memory will be emphasized and reinforced through application to business-type problems. (0-2) 1

SEC 3301 Legal Terminology and Vocabulary: Upon completion of this course, students will be able to demonstrate an extensive knowledge of legal terminology and vocabulary including definitions, usage, derivations, and spelling. (3-0) 3

SEC 3302 Effective Word Techniques: Upon completion of this course, students will show proficiency in spelling, word usage, business terminology, and intelligent use of the dictionary. (3-0) 3

SEC 3303 Keyboarding: Keyboarding will be taught on a computer. Upon completion of this course, students should be able to key by touch the letters of the alphabet, numbers, and symbols. Emphasis is placed on correct technique and accuracy. A proficiency test may be taken in lieu of this course. (1-4) 3

SEC 3305 Editing, Proofreading, and Reference Skills: Upon completion of this course, students will be able to use a variety of reference materials to answer specific questions regarding punctuation, grammar, capitalization, number usage, abbreviations, format, and document transmission as they relate to the preparation of business letters, memoranda, and reports. In addition, students will be able to proofread materials for accuracy. (3-0) 3

SEC 3311 Receptionist Skills: Upon completion of this course, students should be familiar with operation of key telephone devices used by a receptionist; be knowledgeable of effective public relations that project a positive company image; be efficient in such job-related tasks as making appointments, recording messages, receiving and screening calls and callers, processing company mail, controlling petty cash accounts, and maintaining bulletin boards. (3-0) 3

SEC 3312 Introduction to Word Processing: Upon completion of this course, students will be introduced to creating, retrieving, editing, manipulating, and printing documents of various sophistication on a microcomputer. (2-2) 3

SEC 3320 Personal Projection: Upon completion of this course, students will be able to recognize the importance of the physical, intellectual, social, and emotional dimensions of personality. Emphasis is placed on grooming and methods of personality improvement. (3-0) 3

***SEC 3405 Document Formatting I:** Upon completion of this course, students will demonstrate a further mastery of correct keyboarding techniques to be applied in tabulations, manuscripts, and correspondence on a microcomputer. Individualized and self-instructional methods are employed. The minimum speed required is 30 words per minute for 3 minutes.
*Prerequisite: SEC 3303 or equivalent (3-2) 4

***SEC 3406 Document Formatting II:** In this course, students will begin to function as expert keyboarders producing mailable copies on the microcomputer. The production units will involve tabulations and correspondence. The minimum speed required is 35 words per minute for 5 minutes.
*Prerequisite: SEC 4429, SEC 3405 or equivalent (3-2) 4

SEC 3411 Notetaking: Upon completion of this course, students will have developed efficient and effective notetaking skills through the use of the alphabet, abbreviations, and

other shortcuts. The ability to take notes at a rate of 60 words a minute for 3 minutes will be required for successful completion. (3-2) 4

***SEC 3414 Shorthand I:** Upon completion of this course, students will demonstrate a knowledge of shorthand theory. The emphasis will be on phonetics, penmanship, word families, brief forms, and phrases. A proficiency test may be taken in lieu of this course.
*Corequisite: ENG 1504, SEC 3303 or equivalent, or Departmental consent (3-2) 4

***SEC 4201 Secretarial Cooperative Experience I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential for success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-op Office (0-20) 2

***SEC 4202 Secretarial Cooperative Experience II:** A continuation of SEC 4201, this course further refines the students' work experience skills. Upon successful completion of this course, students should be able to perform with greater competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the specific requirements and responsibilities of successful employment in the field and evaluate their own capacity to comply analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of Department and Co-op Office. (0-20) 2

***SEC 4305 Business Communications:** Upon completion of this course, students will have developed effective techniques for composing business letters and other forms of business communications.
*Prerequisite: ENG 1504, ENG 3515, or Departmental consent (3-0) 3

SEC 4324 Information Processing Concepts: This is a concepts course designed for support staff and managers who currently use or are interested in using computers in their office work. It provides a perspective of the evolution and impact of text and information processing in the automated office. Upon completion of this course, students will understand concepts of system configurations and Local Area Networks; document production, communication, distribution, storage and retrieval including E-Mail and FAX; document protection; menu use for PC-Host applications; and the relationship of the office employee to the computerized office environment. (3-0) 3

SEC 4370 Records Management: Upon completion of this course, students will know the fundamentals of indexing and filing. Theory and practice are combined by the use of miniature letters, filing boxes and guides which emphasize the principles of alphabetic filing. In addition students will be given experience in working with an electronic filing software package. (3-0) 3

***SEC 4400 Typing Skill Building:** Upon completion of this course, students will have improved accuracy and speed in typewriting, using an individualized, diagnostic, prescriptive approach.
*Prerequisite: Students must know the typewriter keyboard. (3-2) 4

***SEC 4407 Document Production:** Upon completion of this course, students will be able to type a series of projects in a mailable format using a microcomputer. In addition, the course will review the fundamental principles of document processing as they apply to production work with special emphasis on unarranged and uncorrected material. The minimum speed required is 45 words a minute for 5 minutes.
*Prerequisite: SEC 3406 (3-2) 4

***SEC 4409 Legal Document Production:** Upon completion of this course, students will be able to keyboard 60 words per minute for 5 minutes on straight-copy material with no more than 5 errors; produce problems of a mailable nature dealing with litigation, family law, negligence, business organizations, wills and estates, real estate, and bankruptcy using wordprocessing software and incorporating macros and other time-saving features; and increase their legal vocabulary and knowledge of legal office procedures.
*Prerequisite: SEC 3406, SEC 4429 (3-2) 4

***SEC 4416 Medical Document Production:** Upon completion of this course, students should be able to type 55 words per minute for 5 minutes on straight-copy material with no more than five errors, produce problems of a mailable nature typical of those required in a medical office, improve their medical vocabulary and knowledge of medical office procedures, complete a variety of medical insurance claims.
*Prerequisite: SEC 3406 (3-2) 4

***SEC 4425 Machine Transcription:** Upon completion of this course, students will be able to operate a transcribing machine and will have transcribed various kinds of communications at the computer into mailable form. Emphasis is placed on grammar and proofreading.
*Prerequisite: ENG 3515 and SEC 4429, or Departmental consent (3-2) 4

***SEC 4429 Word Processing I:** Upon completion of this course, students will demonstrate the ability to create, edit, and manipulate documents of various sophistication on a microcomputer using a word processing software package.
*Prerequisite: SEC 3405 or Departmental consent (3-2) 4

***SEC 4430 Word Processing II:** Upon completion of this course, the student will have a working knowledge of the advanced features of word processing software including macros, styles, tables, and graphics.
*Prerequisite: SEC 4429 or Departmental consent (3-2) 4

SEC 4435 Word Processing for Windows: Upon completion of this course, students will have developed the ability to create, edit, and manipulate documents on a microcomputer using a software package in the windows environment. (3-2) 4

***SEC 4517 General Office Procedures:** Upon completing this course, students will be able to demonstrate how to han-

dle secretarial responsibilities such as receiving office visitors, handling the mail, telephoning, planning travel, preparing financial records, purchasing supplies, organizing the desk and office, using reprographic services. They will

also be able to prepare a resume, an application letter, an application form, and a follow-up letter.
*Prerequisite: SEC 3406 or Departmental consent (5-0) 5

SEC 5200 Computer Keyboarding: Upon completion of this course, students will be able to input alphabetic and numeric characters on a microcomputer using the touch system of typing. (1-2) 2

SOC – Sociology

SOC 1301 Group Interaction: This is a course designed to enhance students' understanding of group process and dynamics. Upon completion, they should demonstrate a knowledge of the skills essential for analysis of forces at work in groups and for working effectively in a group context. (3-0) 3

SOC 1500 Sociology of the Family: This is a course designed to help students develop an understanding of contemporary American family patterns when examined from a cross-cultural perspective. Upon completion of this course, students should demonstrate a knowledge of the family as a social institution and the social forces which have influenced its development.
NOTE: This course is a Writing Intensive Elective for UNCC. (5-0) 5

SOC 1505 Sociology of Religion: Upon completion of this course, students should be able to describe the sociological perspective on religious behavior; trace the origin and development of religion; list the types and characteristics of religious conversion; compare and contrast religious systems in various cultures; and describe how religion interacts with other social institutions such as politics, the economy, and the class system. (5-0) 5

SOC 2514 Introduction to Sociology: This is a course designed to introduce students to the discipline of sociology. Upon completion, they should demonstrate a knowledge of the basic concepts of sociology, their application to contemporary group life, and the skills essential for objective analysis of one's social and cultural heritage. (5-0) 5

SOC 2515 Social Problems: This is a course which concentrates on America's social problems. Upon completion, students should demonstrate an understanding of some of the major social problems confronting contemporary American society, as well as the theories which account for the underlying conditions and human behaviors which result from these conditions. Proposals for reform will be examined. (5-0) 5

*__SOC 2524 Special Problems of Sociology:__ This is a course for advanced students who have been approved by the Department Head. Students will consult with a Departmental instructor and select a sociological topic of study. The study may involve library research as well as actual observation and the collection of data. Where several students have selected the same or similar topics concerned with a timely or important sociological subject, a seminar or class may be arranged.
*Prerequisite: Consent of Department Head and instructor (5-0) 5

SPA – Spanish

SPA 1600 Elementary Spanish I: Upon completion of this course, students will have a knowledge of some basic elements of Spanish in conversation, reading, and writing. Filmstrips and tapes are used in classroom and laboratory instruction. (5-2) 6

*__SPA 1601 Elementary Spanish II:__ This is a continuation of SPA 1600. Students will learn basic elements of conversation, reading, and writing. Tapes, filmstrips, movies and extensive conversation are used in classroom and laboratory instruction.
*Prerequisite: SPA 1600 within previous two quarters or consent of Department Head (5-2) 6

*__SPA 2320 Special Topics:__ This is an advanced course in which students and the instructor select topics for independent study. The class meets for oral reports and discussion.
*Prerequisite: SPA 2600 within two previous quarters or consent of Department Head (3-0) 3

*__SPA 2600 Intermediate Spanish I:__ Upon completion of this course, students will have had an intensive review of basic grammar and vocabulary, combined with study of idiomatic forms and grammatical structures in selected readings.
*Prerequisite: SPA 1601 within previous two quarters, two high school units, or consent of Department Head (5-2) 6

*__SPA 2601 Intermediate Spanish II:__ Upon completion of this course, students will have completed a review of grammar, along with readings in Spanish with emphasis on people and events.
*Prerequisite: SPA 2600 within previous two quarters or consent of Department Head (5-2) 6

SPH – Speech Communication

SPH 1300 Oral Communications: Upon completion of this course, students should be able to demonstrate basic verbal and nonverbal communication skills for informative speaking before an audience. Students will use the fundamental techniques of research, preparation, organization, and delivery for oral presentations. They will also participate in group discussions and demonstrate appropriate listening behavior. Speeches may be audio and/or videotaped. (3-0) 3

SPH 1301 Persuasive Speaking: Upon completion of this course, students will have studied the history, theory, and application of persuasive communication. Students should be able to develop and demonstrate critical thinking skills that allow them to analyze contemporary social problems, explore possible solutions, assess the impact of the solutions, and communicate this information to an audience. Students should be able to show through the use of analysis, evidence, and reasoning patterns that attitudes, actions, and beliefs may be altered. Techniques of library and field research will be utilized to enhance persuasive public speaking skills. Student speeches may be audio and/or videotaped. (3-0) 3

SPH 2300 Voice and Diction: Upon completion of this course, students should be able to pronounce the sounds of standard American English, identify them in simple words, and employ the sounds through individual readings. They should be able to demonstrate proper breath control, volume, pitch rate, phrasing, and vocal variation. Readings may be audio and/or videotaped. (3-0) 3

***SPH 2302 Voice and Diction II—Oral Interpretation:** Upon completion of this course, students should be able to interpret the mood, emotion, and meaning of selected prose and poetry with voice, mind, and body. Emphasis is placed on the understanding of the literature, the ability to interpret with integrity the meaning of a literary selection, and the ability to communicate this meaning to an audience. Readings may be audio and/or videotaped.
*Prerequisite: Any of the following courses-- SPH 1300, SPH 1301, SPH 2300, SPH 2304, DRA 1303, DRA 1304, DRA 2303, DRA 2306, or consent of the instructor (3-0) 3

***SPH 2304 Public Speaking:** Upon completion of this course, students will demonstrate an understanding of the history, theory, and application of traditional and contemporary public address. Research, preparation, delivery, and analysis of informative, persuasive, and special occasion public speaking will be emphasized. This is an advanced course and requires a background in public speaking. Student speeches may be audio and/or videotaped.
*Prerequisite: SPH 1300, SPH 1301, SPH 3300, permission of Program Director or instructor (3-0) 3

SPH 2310 Intercultural Communications: Upon successful completion of this course, students should be able to demonstrate an understanding of the principles and skills needed to become effective in communications with individuals and groups outside of the student's primary culture. Emphasis is placed on the role communication has on the global interdependence of the world's societies and cultures. Topics will include techniques of cultural research, definitions, functions and characteristics of culture, nonverbal dimensions, cultural universals and cultural relativity, attitude, belief and value systems, culture shock, and the impact of cultural differences in public address. (3-0) 3

SPH 3300 Business and Professional Speech Communication: Upon completion of this course, students should be able to identify and discuss the role of communication in an organization; apply learned skills for effective participation in a variety of interview situations; demonstrate skills necessary for the management and participation of meetings; and research, prepare and deliver speeches appropriate for a business or professional environment. Presentations may be audio and/or videotaped. (3-0) 3

Traffic And Transportation – See TRN

TAT – Travel and Tourism Technology

TAT 3200 Travel and Tourism Etiquette: In this course, students will review those social skills important to deportment in public situations. There will be a general review of table manners, restaurant and meeting etiquette, dress standards, and general interpersonal manners. (2-0) 2

TAT 3300 Introduction to the Travel Industry: Upon completion of this course, students should have a basic understanding of the modern travel and tourism business. A variety of elements will be discussed, including the economic and social impact of the industry. (3-0) 3

***TAT 3301 Agency Operations:** Upon completion of this course, students should be able to describe the functional areas within an agency, define the role of each functional area, describe the importance of budgeting, demonstrate control techniques, recognize the importance of customer service, explain agency arrangements and relationships with travel and tourism providers, describe market trends, and discuss ethics with regard to agency operations.
*Prerequisite: TAT 3300 or consent of the Department Head (3-0) 3

TAT 4301 Tourism Marketing: Upon completion of this course, students should have basic insights into the tourism marketing process. Basic marketing concepts will be discussed. There will be basic work on surveying and survey techniques. Specifically, the course will look into the marketing of hotels, motels, airlines, resorts, restaurants, sporting events, attractions, etc. Advertising and public relations alternatives will be considered. (3-0) 3

TAT 4304 World Destinations & Resorts I: Upon completion of this course, students should have a broad knowledge of the major resorts and destinations in the western hemisphere. Special emphasis is given to those in the United States. Major points of entry will be discussed. (3-0) 3

TAT 4305 World Destinations & Resorts II: Upon completion of this course, students should have a general background of the major resorts/tourism destinations in the non-western hemisphere. Major tourism points of entry and interest will be discussed. (3-0) 3

TAT 4306 Group Arranging/Meeting Planning: Upon completion of this course, students should understand the basics of group tours, meetings, business meetings, incentive trips, and conventions. The course will cover how to book a group with a bus company, airline, hotel convention center, and attraction. (3-0) 3

TAT 4307 A History of Beverages: Upon completion of this course, students should have a basic understanding of major American, French, Italian, and German wine growing/areas. They will also have a basic understanding of distilled and brewed spirits. Students will learn serving techniques and the basics of beverage etiquette. (3-0) 3

***TAT 4308 Practicum I:** Upon completion of this course, students should be able to relate their career goals to actual operations. Students will complete the course in their specific areas of interest.
*Prerequisite: TAT 4502 or consent of Department Head (1-20) 3

***TAT 4501 Hospitality Computer I:** Upon completion of the course, students should understand how to make domestic airline reservations using an airline computer. They will learn how to access the computer for updated information; how to book a flight; how to make special requests; and how to make changes, additions, and deletions.
*Prerequisite: EDP 3310 Microcomputer Operations or consent of Department Head (3-6) 5

*TAT 4502 **Hospitality Computer II:** Upon completion of this course, students should have a basic understanding of the booking of international air flights. Included in the course are discussions about carrier codes, schedules, connecting times, and currency conversions.
*Prerequisite: TAT 4501 or consent of Department Head
(3-6) 5

*TAT 4503 **Hospitality Computer III:** Upon completion of this course, students should know how to use an airline computer to book limousines, rental cars, hotels, resorts, attractions, airline packages, etc. They will also learn how to access the computer for information and selling purposes.
*Prerequisite: TAT 4502 or consent of Department Head
(3-6) 5

TRN – Traffic And Transportation

TRN 3300 Transportation: This is an introductory course which surveys the entire field of transportation, transportation management, and the career opportunities available in the field. Upon completion of the course, students should be able to trace the development of the transportation system as it exists in the United States; compare the various modes of transportation; explain the career opportunities in each area, including traffic management, sales and operations; describe briefly how rates are established; explain how highways are financed; describe briefly the regulatory aspects of the industry, including recent deregulation; describe the operational aspects and management of companies involved in transportation. (3-0) 3

TRN 3320 Motor Fleet Safety Management: This course is designed for the individual who is responsible for fleet safety within the trucking industry. It will emphasize hiring, training, supervising, and/or evaluating employees in the trucking industry. Upon completion of this course, students should be able to identify and describe the essential elements of a fleet safety program as prescribed by the American Trucking Association (ATA), apply DOT requirements in employee selection procedure, apply industry recommended procedures for training, demonstrate proper techniques in driver supervision. (3-0) 3

TRN 3351 Traffic Management: Upon completion of this course, students should be able to compare for-hire carriers and company-operated transportation services and costs; analyze and interpret freight tariff; explain freight classification and rate structure; identify various routing procedures; define in-transit arrangements, reconsignments, and diversions; apply procedures to avoid demurrage; describe documentation and movement of export and import traffic; identify areas of carrier liability and methods of processing freight claims. (3-0) 3

TRN 3360 Transportation Pricing: This is a problem approach to the study of motor carrier rates and charges. Emphasis is placed on tariffs published by the Southern Motor Carrier Rate Conference. Upon completion of this course, students should be able to discuss the classification, construction, and application of rates and charges; compute simple rate problems; and apply various Southern Motor Carrier Rate Conference Tariffs to practice problems. (2-2) 3

*TRN 4200 **Cooperative Education I:** Upon successful completion of this course, students should be able to perform with competence the particular work-related skills involved in the specific job held, evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation, assess the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands, and analyze the job market in their chosen career prior to entrance into that career or occupation as full-time employees.
*Prerequisite: Permission of department and Co-op Office
(2-0) 2

TRN 4351 Freight Claims: Upon completion of this course, students should be able to investigate damaged shipments; gather and present facts to determine carrier liability; file and process a claim for payment; describe actions shipper-carrier can take to prevent damage from loss or delay. (3-0) 3

TRN 4356 Introduction to Logistics: Upon completion of this course, students should be able to describe the movement and storage of finished goods from the end of the production line to the ultimate consumer, identify various segments involved in physical distribution, compare the advantages and disadvantages of each segment in order to make more cost-effective decisions. (3-0) 3

TRN 4358 Warehouse Management: This is a course which examines warehousing from two perspectives - the user of public or private warehouses and the warehouse operator who handles them. Upon completion of this course, students should be able to describe the types of warehousing, public and private; describe user considerations; list and explain various management methods and concepts for the operator of a warehouse facility; recognize and describe the different types of equipment used in material handling.(3-0) 3

TRN 4375 Import Transportation Management: Upon completion of this course, students should be able to demonstrate a thorough understanding of import terminology; explain the process of importing and the associated support organizations, including legal and regulatory controls; apply practical knowledge in organizing and staffing an import department; identify the responsibilities and services of overseas consolidation; process import documentation, including the responsibilities of the clearing agent and U.S. Customs; select and utilize the proper carrier of import transportation; locate sources of information and special services; and identify and analyze trends and their impact on international transportation. (3-0) 3

TRN 4380 Export Transportation Management: Upon completion of this course, students should be able to demonstrate a thorough understanding of export terminology; explain the participants in exporting and associated supporting organizations; apply practical knowledge in organizing and staffing an export department; identify the responsibilities and services of international freight forwarders, including legal and regulatory controls; write and process an export order, including transport by all modes of transportation, insurance coverage, and terms of payment; describe the use of freight consolidation and overseas distribution; identify and analyze trends and their impact on international transportation; and locate sources of information and special services. (3-0) 3

WLD – Welding

WLD 5203 Blueprint Reading for Welders I: Upon completion of this course, students should be able to sketch multi-view drawings; interpret conventional lines, dimensions, notes, and welding symbols; make pictorial sketches; interpret industrial drawings used in welding shops. (1-2) 2

***WLD 5204 Blueprint Reading for Welders II:** Upon completion of this course, students should be able to read and interpret industrial welding prints of a more complex nature, make sketches of welding assemblies, interpret detailed welding symbols.
*Prerequisite: WLD 5203 (1-2) 3

***WLD 5205 Welding Qualification Test:** Upon completion of this course, students should be able to satisfactorily complete a welding pretest on 1/4" and 3/8" carbon steel using the shielded metal arc process with AWS E6010 and E7018 electrodes in the flat, vertical upward, and horizontal positions, and satisfactorily complete the AWS DI.1-94 qualification examination. This examination will be interpreted using radiographic procedures by a qualified outside testing agency.
*Prerequisites: WLD 5433, WLD 5421, WLD 5422
Corequisite: WLD 5267 or Program Director approval based on evidence of adequate institutional or on-the-job training (0-6) 2

WLD 5210 Basic Oxyacetylene Welding: Upon completion of this course, students should be able to identify components; set up, calibrate, and operate the oxyacetylene welding equipment; demonstrate surface welding, brazing applications, and flame cutting methods applicable to mechanical repair work; identify and demonstrate safety precautions pertaining to oxyacetylene welding and cutting. (1-3) 2

WLD 5220 Basic Electric Arc Welding: Upon completion of this course, students should be able to describe the essentials of shielded metal arc welding, operate a rectifier type welding machine, weld the more common types of joints applicable to mechanical repair work in the flat position, identify and demonstrate safety precautions pertaining to shielded metal arc welding. (1-3) 2

***WLD 5240 Introductory Pipe Welding**: Upon completion of this course, students should be able to discuss pipe welding procedures, pipe and tubing measurements; discuss proper procedures for surface preparation, fitting, positioning, gap clearance, and tacking of pipe; demonstrate proficiency in oxyacetylene flame cutting of pipe, test specimens for guided bend test, and document results; weld pipe using shielded metal arc welding process with E-6010 and E-7018 electrodes in the rolled position; demonstrate and practice safety precautions pertaining to shielded metal arc welding.
*Prerequisites: WLD 5433, WLD 5421, or Welding Program Director approval
Corequisite: WLD 5422 (1-3) 2

***WLD 5241 Flux Cored Arc Welding:** Upon completion of this course, students should be able to describe the essentials of flux cored arc welding; set up according to procedure and operate flux cored arc welding equipment; weld different types of joints in the flat, vertical, and horizontal position on steel plate; select welding current, shielding gases, and filler wires; identify and practice safety precautions pertaining to flux cored arc welding.
*Corequisite: WLD 5433 (1-3) 2

WLD 5250 Basic Gas Metal Arc Welding: Upon completion of this course, students should be able to identify components, calibrate, and operate the gas-metal arc welding equipment; weld different types of joints in the flat position applicable to mechanical repair work; select welding heats and shielding gases; describe and demonstrate safety precautions pertaining to gas metal arc welding. (1-3) 2

***WLD 5260 Welding Co-Op:** Upon completion of this course, students should be able to apply skills acquired in welding courses to actual working situations in the welding industry, produce a work log sheet containing the types and number of job tasks completed in the industry during the cooperative work experience, and demonstrate exemplary attendance and work habits.
*Prerequisite: Minimum of three quarters of Welding Program courses (0-20) 2

***WLD 5267 Certification Practice:** Upon completion of this course, students should be able to weld various metals to meet CPCC standards using oxyacetylene, shielded metal arc, gas tungsten arc, and gas-metal arc welding processes, and be able to demonstrate safety precautions involved in using welding and other shop equipment and tools.
*Prerequisites: WLD 5450, WLD 5433, WLD 5421, WLD 5422, WLD 5431, WLD 5432
Corequisite: WLD 5268 (0-6) 2

***WLD 5268 Certification Testing:** Upon completion of this course, students should be able to discuss and perform various tests including guided bend, liquid penetrant, magnetic particle, ultrasonic, and tensile tests to detect imperfections and discontinuities in weldments, and be able to demonstrate skill in producing quality welds.
*Prerequisites: WLD 5433, WLD 5450, WLD 5241, WLD 5421, WLD 5422, WLD 5431
Corequisite: WLD 5267, WLD 5432 (2-0) 2

***WLD 5355 Commercial and Industrial Practices I:** Upon completion of this course, students should be able to demonstrate skill developed through practice in simulated industrial processes and techniques; sketch, lay out, list procedures, and construct a project following these procedures; repair worn or broken parts by special welding application; perform nondestructive tests and inspection; identify and practice safety precautions involved in the welding industry.
*Prerequisites: WLD 5433, WLD 5241, WLD 5450, WLD 5421, WLD 5431, WLD 5450 (1-6) 3

***WLD 5356 Commercial and Industrial Practices II:** Upon completion of this course, students should be able to prepare a bill of materials necessary to fabricate projects, fabricate projects from sketch or blueprint, demonstrate additional skill in those areas outlined in WLD 5355.
*Prerequisite: WLD 5355 (1-6) 3

WLD 5401 Basic Calculations for Welders: Upon completion of this course, students should be able to apply the principles of addition, subtraction, multiplication, and division to problems related to the welding field; apply the functions of ratio and proportion to length and height of dimensions; read a scale satisfactorily; calculate the percentage of error involved in a given measurement; find weights and capacities of stock using area and volume formulas; understand angular measurement. (4-0) 4

Corporate and Continuing Education

"It Works For Me!"

Corporate and Continuing Education:

(704)342-6600

The Corporate and Continuing Education division provides courses and programs for work force preparedness and community service which fall into two categories: 1) those customized for a specific business' or industry's work force; 2) those that cater to an individual's career attainment, upgrade or enrichment. Courses and programs often lead to a professional designation, continuing education credits, or certification.

Community service courses are designed to enhance the cultural, civic, and intellectual needs of individuals and the community.

The courses in all these programs, however, can be customized for specific populations. They may be delivered in a variety of settings including the workplace, local high schools, libraries, or in regular campus facilities.

The majority of continuing education classes are listed in a quarterly class schedule distributed through the local paper or obtained through the College.

Courses can also be developed to meet the needs of businesses or organizations by calling the Corporate and Continuing Education Department. These courses can be delivered on site or at CPCC sites.

Workforce Skills Courses

Classes and programs are designed to provide quality, cost effective, work force training and re-training in the Charlotte-Mecklenburg region. These courses include the typical courses listed below and courses customized to meet specific needs of companies.

Work force Skills classes include:

- **Child Day Care:**
  (704)342-6508
  Typical courses: Understanding Today's Pre-Schoolers, Classroom Planning, Contemporary Issues in Child Care
- **Computer Aided Drafting and Design:**
  (704)342-6464 or **342-6299**
  Typical courses: Introduction to AutoCad*, Advanced AutoCad* 2D, AutoCad* 3D

*AutoCad is a registered trademark of the AutoDesk Corporation.

- **Customized Corporate Computer Training:**
  (704)342-6213
  Typical courses: Novell Netware, Mainframe, DOS and Windows Applications, DOS and Windows Trouble Shooting
- **Construction:**
  (704)342-6575 or 342-6299
  Typical courses: Residential Blueprint Reading and Estimating, Home Construction Methods and Details, Residential Contractors' Exam Review, Building/Commercial Contractors' Exam Review, Total Safety Performance, The Professional Construction Supervisor
- **Education:**
  (704)342-6117
  Typical courses: Effective Teaching, Effective Communication and Listening Skills, First Aid and CPR for Teachers, Arts in the Content Area, AIDS Awareness for Teachers
- **Electrical Contractor License Renewal:**
  (704)342-6698
  Typical courses: Electrical Contractor License Renewal
- **Electricity:**
  (704)342-6698
  Typical courses: Electricity I, Electricity II, Electricity III, National Electrical Code I, II, III
- **Environmental Health and Safety**
  (704)342-6508
  Typical courses: How to Prepare for an OSHA Inspection in General Industry, OSHA Confined Space Regulations
- **Gerontology:**
  (704)342-6118
  Typical courses: Health and Wellness of Older Adults; Retirement Planning; Problems, Issues and Trends in Aging
- **Health**
  (704)342-6507
  Typical courses: Nurse Aide, EMT Basic, CPR, First Aid, RN Refresher, and Health Unit Coordinator
- **Human Resources Development:**
  (704)342-6969
  Typical courses: Bank Teller Training, Job Seeking Skills, Ten Key/CRT Training, CRT/Customer Service Training
- **Industrial/Manufacturing:**
  (704)342-6464 or **342-6299**
  Typical courses: Mechanical Blueprint Reading, Shop Math, CNC Programming and Operations, CNC Graphics, Using SmartCam, Software and Geometric Dimensioning and Tolerancing
- **Insurance:**
  (704)342-5493
  Typical courses: Ethics, Commercial Coverage, Commercial General Liability, Mandatory Statutes and Rules Update, Practices and Procedures in Workers' Compensation, Disability Income Insurance, Variable Contract, Group Insurance and Hospitalization
- **International Business:**
  (704)342-6900
  Typical course: Fundamentals of Importing, Letters of Credit, and Export Outreach
- **Management/Professional Development:**
  (704)342-6213
  Typical courses: High Impact Business Writing, Fundamental Skills of Managing People, Communication Skills and Sales Training.
- **Microcomputer Applications:**
  (704)342-6210 or **342-5069**
  Typical courses: Computer Skills with Strategies for Employment, Introduction to Microcomputers, Microcomputer Programming-DOS, Introduction to WordPerfect, Intermediate WordPerfect, Introduction to Lotus 1-2-3, Lotus 1-2-3 Level II, Introduction to dBase IV, Introduction to Harvard Graphics, Introduction to FoxPro, Microsoft Word for Windows, Microsoft Word for Windows Level II, Excel for Windows, Windows, Introduction to MacIntosh Computers, Claris Works, Desktop Publishing-Pagemaker, Introduction to Quark XPress
- **Notary Public:**
  (704)342-6116
  Typical course: Notary Public I

- **Quality Improvement:**
  (704)342-6698
  Typical courses: Total Quality, Improvement Team Training, Introduction to ISO 9000, Quality Measurement Tools (Basic SPC)
- **Real Estate:**
  (704)342-5479
  Typical courses: Use of Hewett-Packard Financial Calculators in Appraising, Narrative Appraisal Report Writing, Topics in Real Estate Financing and Appraising
- **Small Business:**
  (704)342-6900
  Typical courses: Financial Management for Small Businesses, Business Basics of Starting and Operating a Small Business, Tax Workshops, Sales and Marketing
- **Teacher Renewal Certification:**
  (704)342-6117
  Typical courses: Teaching Children to Write Poetry, Classroom Behavior Management, NC Architecture: Heritage Education Program, Spanish for Teachers, Calligraphy for Teachers, North Carolina History, Characteristics and Identification of Gifted Students, Learning Styles and Unit Plans, CPR and First Aid

Special Certification Programs

Construction Skills
For information call 342-6575

Motorcycle Safety Certification
For information call 342-5479

Nurse Aide
For information call 342-6507

Safety and Emissions Certification
For information call 342-6299

Special Workplace Skills Services

Corporate and Continuing Education uses a variety of strategies and services to ensure that customer needs are taken care of in relation to workplace skills.

Regular scheduled classes are published in the quarterly class schedule. For a class schedule, call 342-6212.

Contract Training Classes are those that Corporate and Continuing Education contracts with individual organizations to offer training on campus or at the organization's site. The training can be an existing course or a "custom" class tailored to the organization's needs for information on these classes, call 342-6600.

Special Classes and Seminars are those that Corporate and Continuing Education offers that are not included in the quarterly class schedule. For information on these classes call 342-6600.

New Industry Classes in which Corporate and Continuing Education provides complete training services for new and expanding industries in a special state supported format. For information call 342-6471.

Focused Industrial Training through Corporate and Continuing Education is a special state program that delivers industrially related training to very small groups of workers. For more information, call 342-6575.

Apprenticeship Training through Corporate and Continuing Education is supported by a small grant from the state. For more information, call 342-6575.

Human Resources Development (HRD) serves adults who are interested in a successful job search.. With a main focus on helping students to increase their income, the Job-Seeking Skills course is designed for individuals with varied employment interests, such as older adults, adults in transition, career changers, and the unemployed or underemployed. Other classes focus on specific employment skills as well as self-directed job-search techniques (Bank Teller Training, Ten Key/CRT, Customer Service CRT). Instruction in all classes is based on current contact with employers and the most up-to-date career-search techniques. For more information, call HRD at 342-6969.

Basic Literacy Skills in Corporate and Continuing Education works in partnership with the Adult Basic Education Department to provide assessment and instruction in basic work force literacy skills on company sites. For more information, call 342-6716.

Human Resources Development (HRD)

Program Description

HRD serves adults who are interested in a successful job search. A main focus is helping students to increase their income. The Job-Seeking Skills course is designed for individuals with varied employment interests, such as older adults, adults in transition, career changers, and the unemployed or underemployed. Other classes focus on specific employment skills as well as self-directed job-search techniques (Bank Teller Training, Ten Key/CRT, Customer Service/CRT).Instruction in all classes is based on current contact with employers and the most up-to-date career-search techniques.
For more information, call HRD at (704)342-6969.

Course Description:

HRD 6002 Bank Teller Training Program: This program is designed to teach students the basic entry-level skills necessary for employment as a bank teller or for employment insimilar positions. The curriculum also includes customer service techniques and job-seeking skills. Call HRD at (704)342-6969.

HRD 6004 Job Seeking Skills: This course is designed for adults who are seeking employment. Students in this class will learn to identify and market their transferrable skills. They will also learn the mechanics of the job search, such as networking, employment application preparation, interviewing, and resume writing. Call HRD at (704)342-6969.

HRD 6006 Ten Key/CRT Training Program: This program is designed to teach ten-key by touch, and basic CRT techniques which will familiarize students with the computer keyboard and methods of retrieving and editing customer accounts on a computer terminal. Customer service techniques and job-seeking skills are also emphasized. Call HRD at (704)342-6969.

HRD 6009 CRT/Customer Service: This course is designed to teach students the techniques of in-person and telephone customer service. Students will learn basic CRT techniques to familiarize them with the computer keyboard, and methods of retrieving and editing customer accounts on a computer terminal. Job-seeking skills are also emphasized. Call HRD at (704)342-6969

Community Service Programs

Community Service programs contribute to the civic, cultural, intellectual, personal, and social enrichment of the Charlotte-

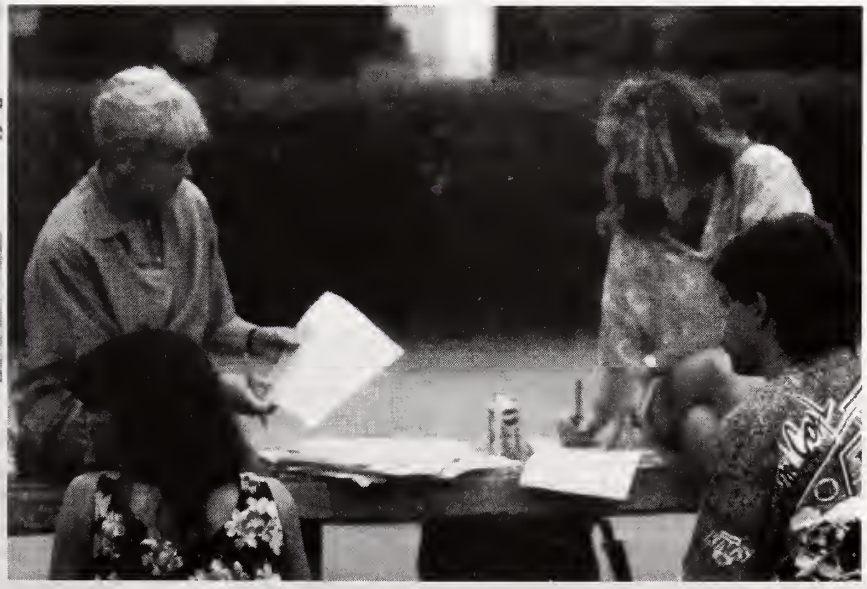
Mecklenburg area. They assist adults in developing new skills and in upgrading existing skills. By using the intellectual and cultural resources of the College and the community, these programs improve the quality of life in this region and enrich individual lives.

Community Service programs are coordinated with local schools, churches, agencies and associations. The program offerings and services are available on CPCC's Central Campus and at numerous other locations. They include:

- **Accounting, Financial and Retirement Planning:**
  (704)342-6116
  Typical courses: Investments and Financial Planning, Your Money: Investing It Wisely
- **Arts and Crafts:**
  (704)342-6116
  Typical courses: Tatting, Ceramics, Creative Crafts, Calligraphy, Stained Glass, Tole Painting, Watercolor, Canvas Painting
- **Automotive:**
  (704)342-5479
  Typical course: Basic Auto Repair
- **Cooking:**
  (704)342-6117
  Typical courses: Cake Decorating, Party Food Preparation, Chinese Cooking, Low Fat Cooking
- **Creative Writing:**
  (704)342-6116
  Typical courses: Creative Writing, Writing Magazine Articles, Poetry Workshops
- **Current Events:**
  (704)342-6116
  Typical course: Current Events and You
- **Dance:**
  (704)342-6116
  Typical course: Beginners' Shag and Line Dancing
- **Flower Arranging/Horticulture:**
  (704)342-6117
  Typical courses: Flower Arranging, Creative Landscaping Through Perennials, Landscaping Designs
- **Foreign Language:**
  (704)342-6116
  Typical courses: Beginners' Conversational French, Russian, German, Spanish, Italian, Arabic
- **Genealogy:**
  (704)342-6116
  Typical courses: Genealogy I and II
- **History:**
  (704)342-6117
  Typical courses: Charlotte and the New South, North Carolina History
- **Interior Decorating:**
  (704)342-6117
  Typical course: Interior Decorating for Your Home
- **Pre-Homeownership Education:**
  (704)342-6116
  Typical course: Pre-Homeownership Education
- **Psychology:**
  (704)342-6116
  Typical course: Assertiveness/Self-Esteem: Discovering Those Powers Within You
- **Religion:**
  (704)342-6116
  Typical course: Literature of the Bible
- **Sewing and Knitting:**
  (704)342-6116
  Typical courses: Holiday Sewing, Beginning Sewing, Woman's Tailoring, Beginning Pattern Making and Pattern Alterations, Designing and Sewing in Full Sizes, Lingerie Construction
- **Woodworking:**
  (704)342-6116
  Typical course: Woodworking

Faculty and Professional Staff

"It Works For Me!"



Faculty and Professional Staff Full Time

ADAMS, FREDERICK P., Director, Auxiliary Services
B.B.A., 1971 (Campbell College).

ADKINS, CARRIETTA H., Director, Staff Development
B.A., 1968 (East Carolina University); M.Ed., 1973 (University of North Carolina at Charlotte).

ALBANESE, J. MICHAEL, Mathematics
B.S., 1975 (West Virginia Institute of Technology); M.M., 1977 (University of Tennessee). Additional graduate study at West Virginia University and West Virginia College of Graduate Studies.

ALBRIGHT, JUDY, Accounting
B.S., 1971; M.A., 1972 (Appalachian State University).

ALEXANDER, LANDON, Director, Auto Body Program
Diploma in Auto Body Repair, 1975 (Central Piedmont Community College). Additional studies at Central Piedmont Community College.

ALLRED, CAROLYN M., Department Head, Health, Physical Education and Recreation
A.B., 1962 (Mercer University); M.S.P.H., 1963 (University of North Carolina at Chapel Hill).

ALVAREZ, JOSEPH ANTHONY, English and Foreign Languages
B.A., 1968; M.A., 1971 (University of Florida); B.S. 1981 (University of North Carolina at Charlotte).

AMBROSE, O. DONALD, Director, Area Center Services
A.B., 1964 (University of North Carolina at Chapel Hill); M.A., 1985 (Appalachian State University).

ANDERSON, BOB, Supervisor, Bookstore Operations
B.A., 1951 (Valdosta State College). Additional study at Central Piedmont Community College.

ANTSHEL, DEBORAH A., Program Director, Human Services Technology
B.A., 1979, M.P.A., 1986 (University of North Carolina at Charlotte).

ARBONA, MARIA FRANCISCA, Behavioral and Social Sciences
B.A., 1972 (University of the Sacred Heart, Puerto Rico); M.S., 1974, Psy.D., 1983, (Caribbean Center for Advanced Studies, Puerto Rico).

ARCHER, ROBERT R., Automotive Technology Program
1967-1979 Dealer Technician/Service Manager; 1979-1987 Fleet Administrator. Study at University of Akron. ASE Master Automotive Technician.

AREY, NORMA-JEAN, Learning Disabilities Counselor, Special Services
A.B., 1973 (University of North Carolina at Chapel Hill); M.H.D.L., 1985 (University of North Carolina at Charlotte) Nationally Certified Counselor. North Carolina Registered

ARMENTROUT, BRENDA BORROR, Speech
B.S., 1978 (Davis and Elkins College); M.S., 1980; M.A., 1982 (West Virginia University).

ARROYO, MARGARET A., Health Technologies
B.S.N., 1966 (Temple University); M.A., 1971 Psychiatric Nursing (New York University).

ARTIS, WILLIE MILTON, Advancement Studies
B.S., 1965 (Fayetteville State University); M.Ed., 1977 (University of North Carolina at Charlotte).

ATKINSON, RUBY L., Computer and Office Information Systems Technology
B.A., 1977 (Fayetteville State University); M.S., 1992 (University of South Carolina at Columbia).

ATTREY, JASPAL S., Computer/Electrical/Electronics Technology
B.S., 1971 (Kurukshetra University); M.S., 1973 (Delhi University); M.S., 1975 (Drexel University); B.S.E.E., 1985 (University of Tennessee).

AYDELETTE, REBECCA A., Nursing
B.S.N., 1972 (Mars Hill College); RN, 1962 (North Carolina Baptist Hospital School of Nursing). Graduate study at North Carolina Agricultural and Technical State University.

BACK, DIANN P., Director, Academic Learning Center
B.A., 1968 (University of Arkansas); M.A.T., 1973 (Harding College).

BAILEY, JAMES H., Senior Production Specialist, Educational Networks
B.A., 1974 (University of North Carolina at Chapel Hill). Additional study at the University of North Carolina at Charlotte.

BAKER, DOROTHY H., Director, 3-D Art Program, Art, Visual and Performing Arts
B.F.A., 1976 (Eastern Michigan University); M.F.A., 1981 (Ohio State University). Additional study at State University of New York at New Paltz, the State University of New York at Brockport, and Penland School of Crafts.

BAKITA, JOHN, Behavioral and Social Science
A.A., 1957 (St. Lawrence Junior College); A.B., 1959 (St. Bernard College); M.A., 1965 (Eastern Michigan University); Ph.D., 1978 (Michigan State University). Additional graduate study at St. Louis University and University of Michigan.

BALLARD, CARL N., Accounting
B.S., 1969; M.A., 1970 (Appalachian State University).

BALLARD, SARA WARREN, Computer and Office Information Systems
B.S., 1966; M.A., 1967 (Appalachian State University).

BALLINTINE, CARL D., Senior Lab Facilitator, Technology
A.A.S., 1988 (Central Piedmont Community College).

BARBER, PHYLLIS ALLRAN, Assistant to the President
B.A., 1968 (Lenoir Rhyne College); M.A., 1970 (The University of Tennessee at Knoxville); Ph.D., 1990 (The University of Texas at Austin). Additional graduate study at The University of North Carolina at Chapel Hill and Salisbury State College.

BARLETT, SUSAN, Systems Accountant, Financial Services
B.S., 1989 (University of North Carolina at Chapel Hill).

BARWICK, JOSEPH T., Department Head, English and Foreign Languages
A.B., 1967; M.A.T., 1968 (University of North Carolina at Chapel Hill); Ph.D., 1991 (University of Texas at Austin).

BASS, ANTHONY E., Behavioral and Social Sciences
B.A., 1975 (University of North Carolina at Charlotte); M.A., 1981 (Northern Arizona University); Doctoral training 1982 at Northwestern University. Licensed Psychological Associate.

BATTS, SARA ANNE KING, Director, Insurance Program
B.A., 1968 (Pfeiffer College); J.D., 1972 (Stetson University). Additional graduate study at University of North Carolina at Greensboro.

BAVIS, MARY CATHERINE TIMMINS, Business Administration
B.S., 1963; M.S., 1966 (The Ohio State University); J.D., 1971 (Indiana University). Licensed to practice law in Ohio

(inactive), Indiana (inactive), North Carolina, and certain federal courts including the Supreme Court of the United States.

BEAM, LAURA
B.C.A., 1973 (University of North Carolina at Charlotte);M.A., (Western Carolina University).

BEGLEY, CAROL D., Physical Therapist Assistant Program
A.A., 1970 (Albany Junior College, GA) A.A.S., 1984 (Central Piedmont Community College). Licensed Physical Therapist Assistant.

BELL, AUGUSTA, English and Foreign Languages
B.J., 1946 (University of Texas); M.A., 1957 (Northwestern University).

BENJAMIN, BRENDA L., Computer Center
Study at State University of New York and New York Community City College. Additional study at Central Piedmont Community College.

BENTLEY, WENDY, Advancement Studies
B.S., 1973 (Appalachian State University); M..A., 1990 (University of North Carolina at Charlotte).

BILAL, BRENDA, Advancement Studies
B.S., 1972 (Fayetteville State University); M.A., 1984 (University of North Carolina at Charlotte).

BLACKWELDER, BRENDA CAROLE, Biology
B.A., 1963 (Queens College); M.A., 1965 (Wake Forest University); Ph.D., 1974 (University of South Carolina). Additional graduate study at Duke University and University of South Florida. Certificate, Secondary Education - Biology and Art.

BLALOCK, HOYLE LEE, JR., Department Head, Computer Science and Office Information Systems Technology
B.S., 1961; M.Ed., 1966 (North Carolina State University at Raleigh). Professional Certificate in Data Processing.

BODACK, TAMMY M., Business and Industry Training Specialist, Corporate and Continuing Education
B.A., 1989 (University of North Carolina at Chapel Hill).

BONEVAC, NICHOLAS D., Senior Lab Facilitator, Physics
B.S., 1990 (Furman University). Additional study at University of North Carolina at Charlotte.

BOST, TED R., JR., Program Director, Automotive Technology, Technical Careers
Study at University of North Carolina at Charlotte and Western Carolina University. Shop Owner, 1973-85. ASE Master Automotive Technician.

BOSTIC, ALICE E., Coordinator, Compensatory Education
B.S., 1960 (Baldwin-Wallace College); M.Ed., 1964 (Kent State University). Additional study at University of Missouri.

BOUKOUVALAS, COSTAS S., Director, Special Services
A.A., 1960 (Warren Wilson College); B.S., 1963; M.A., 1970 (North Carolina State University). Additional graduate study at North Carolina State University.

BOUTON, DEBORAH THIGPEN, Counselor
B.A., M.Ed., (University of North Carolina at Chapel Hill).

BRANCH, ARLIAH VANN, Multi-Skills Center
B.S., 1966 (South Carolina State College); M.Ed., 1985 (Winthrop College). Additional graduate study at University of North Carolina at Charlotte and City College of New York.

BRASWELL, MARTHA SANDERS, Architectural Technology
Bachelor of Architecture, 1961 (North Carolina State University).

BROCKMAN, H. L., Economics
B.B.A., 1947 (Southern Methodist University); M.B.A., 1948 (Louisiana State University).

BROOKS, PEGGY E., Counselor
B.A., 1977 (Gallaudet University); M.A., 1978 (New York University).

BROWN, DAVID A., Health and Physical Education
B.S., 1973 (University of Massachusetts); M.S., 1982 (Mankato State University).

BROWN, EMMA W., Associate Dean for Counseling
B.S., 1968 (Barber-Scotia College); M.Ed., 1975 (University of North Carolina at Charlotte).

BRYAN, NANCY SHEARIN,Technology Learning Center
B.S., 1964; M.A., 1967 (Appalachian State University).

BUCHANAN, CHRISTINE C., Administrative Assistant to the President
A.A., 1949 (Draughan's Business College).

BURLESON, DIANE W., Mathematics
B.A., 1972 (Pfeiffer College); M.A., 1982 (University of North Carolina at Charlotte).

BURNS, HERBERT, Department Head, Accounting and Public Safety
B.S., 1964; M.A., 1967 (Appalachian State University); Ed.D., 1979 (Nova University).

CALDWELL, RAY VON, Biology
A.B., 1953 (Lenoir-Rhyne College); M.Ed., 1959 (University of North Carolina at Chapel Hill). Additional graduate study at Converse College.

CANNON, ALICE F., Director, Registration Services
1974 (Kings College).

CANNON, JAMES E., Department Head, Hospitality Education
Certificate, 1973 (Ramada Inns International Management Development). Certified Hotel Administrator.

CARNES, ROSEMARY H., Computer Center
B.S.B.A., 1985 (Indian Land High School).

CATES, DIANNE S., Advancement Studies
A.B., 1964; M. Ed., 1967 (University of Kentucky). Additional study at University of South Florida.

CATHEY, DENISE D., Counseling
B.S., 1975; M.S., 1978 (North Carolina Agricultural and Technical State University).

CHAMBERS, KATHERINE MERRIT, Business Administration
B.A., 1967; M.Ed., 1968 (North Carolina State University). Additional graduate study at Florida State University.

CHEEK, WILLIAM EDWARD, Physical Science
B.A., 1953; M.A., 1957 (Appalachian State University); M.A., 1962 (George Peabody College); Ed.D., 1978 (Nova University). Additional graduate study at University of North Carolina at Chapel Hill, Michigan State University, Duke University, Vanderbilt University, Kansas State University, and University of North Carolina at Charlotte.

CHERNEGA, JANET B., Department Head, Health Technologies
B.S., 1981 (University of North Carolina at Chapel Hill).

CHESHIRE, NANCY, Director,Corporate and Continuing Education
B.S.N., 1959 (Duke University); M.S.N. 1963 (University of Maryland); M.Ed., 1977 (University of North Carolina at Charlotte).

CHESHIRE, THOMAS E., Behavioral and Social Science
B.A., 1967 (North Carolina Wesleyan College); M.A., 1968 (Appalachian State University). Licensed Psychological Associate. Licensed Hypnotherapist.

CHILDRESS, FAYE B., Mathematics
B.S., 1969 (West Virginia Institute of Technology); M.Ed., 1975 (University of North Carolina at Charlotte).

CHRONAKI, BESSIE, English and Foreign Languages
A.B., 1961; M.A., 1966; Ph.D., 1976 (Duke University).

CLAY, SAVANNAH H., Business Administration
B.S., 1970 (Alabama A. & M. University); M.S., 1974 (State University of NY at Binghamton).

CLONINGER, MICHAEL L., Automotive Technology Program
Diploma in Automotive Mechanics, 1974 (Gaston College). Shop Owner 1977-88. A.A.S. in Automotive Technology. 1992 (Gaston College). Study at Western Carolina University. ASE Master Automotive Technician.

COGGINS, BOB G., Director, Law Enforcement Program
B.S., 1967 (Pembroke State University); M.Ed., 1968 (West Chester State College); Ph.D., 1970 (University of New Mexico).

COLLINS, MARYBETH MCCLURG, Behavioral and Social Science
B.A., 1969 (Wittenberg University); M.S., 1972 (Purdue University).

COLQUITT, W. ROY, English and Foreign Languages
B.A., 1967 (North Carolina State University); M.A., 1969 (University of North Carolina at Chapel Hill); M.Ed., 1975; Ph.D., 1979 (Duke University)

CONELLEY, WILLIAM R., Assessment/Retention Specialist, G.E.D.

COTTON, RONNIE L., English and Foreign Languages
A.A., 1977 (Central Piedmont Community College); B.A., 1979; B.A., 1980 (University of North Carolina at Charlotte); M.A., (University of North Carolina at Chapel Hill). Additional graduate study at University of North Carolina at Chapel Hill.

COX, CHARLES A., III, Senior Programmer Analyst
A.A., A.A.S., 1979 (Central Piedmont Community College).

COZEAN, JOHN M., Assistant to Vice President, Education Support Services and International Student Advisor
B.A., 1950; M.Ed., 1957; M.Ed., 1963 (University of Missouri). Additional graduate study at University of Missouri and Washington University.

CRADDOCK, PATSY DENNIS, Nursing
Diploma, 1956 (Presbyterian Hospital School of Nursing); B.S., 1958 (Queens College); M.Ed., 1976 (University of North Carolina at Charlotte). Additional graduate study at University of North Carolina at Charlotte.

CRAIG, ROBERT, English and Foreign Languages
B.A., 1986 (University of Science and Arts at Oklahoma); M. Ed., 1991 (University of North Carolina at Greensboro).

CRAWFORD, GAYLE, Library Service
A.B., 1968 (Johnson C. Smith University). Additional study at Appalachian State University.

CRAWFORD, JOYCE D., Computer and Office Information Systems
B.S., 1962 (Barber-Scotia College); M.A.T., 1975 (Winthrop College). Additional study, University of North Carolina at Greensboro.

CREEK, MACY A., English and Foreign Languages
B.A., 1964 (Westminster College); M.A., 1969 (University of Missouri). Additional graduate study at University of Pittsburgh, Oxford University, and University of North Carolina at Greensboro.

CUDD, DENNIS, Director, Distance Learning Services
A.A., 1967 (Central Piedmont Community College); B.A., 1972 (University of North Carolina at Charlotte).

DANCY,THERESA W., Health Technologies
Diploma, 1965 (Presbyterian Hospital School of Nursing); A.A., 1984 (Central Piedmont Community College); B.S.N., 1985, M.S.N., 1989 (University of North Carolina at Charlotte).

DAVIS, D. GERRY, Director, Computer/Electrical/Electronics Engineering Technology Program
A.A.S., 1967 (Gaston Technical College); B.E.T., 1975 (University of North Carolina at Charlotte); M.Div., 1980 (Southeastern Baptist Theological Seminary). Additional graduate study at Southern Baptist Theological Seminary.

DAVIS, JAMES, Insurance/Benefits Specialist
A.A., 1969 (Southern Business College). Life and Health Insurance Underwriter.

DAWKINS, RITA RORIE, Counselor
B.A., 1981 (University of North Carolina at Chapel Hill); M.Ed., 1982 (University of North Carolina at Greensboro). Additional study at University of North Carolina at Charlotte.

DEADWYLER, MAJORIE H., Dental Hygienel
A.A.S., 1972 (Central Piedmont Community College); B.A., 1975 (University of North Carolina at Charlotte). Additional study at Southern Methodist University. Dental Hygiene License in North Carolina and South Carolina.

DEPAULA, WILLIAM, International Student Advisor
L.L.B., 1963 (Candido Mendes Law School of Rio de Janeiro, Brazil); M.A., 1985 (Winthrop College).

DEPAULA, ZILDA SOUZA, English and Foreign Languages
B.A., 1963 (University of Brazil); M.A.T., 1967 (Brazil-U.S. English Language Institute); M.A., 1983 (Winthrop College).

DORFER, JAY P., Architectural Technology
B.S., 1961 (University of Oregon); M.B.A., 1980 (Chapman College); Master Architecture (University of Washington).

DRUMM, KATHY H., Vice President for Administrative Services
B.A., 1975 (Belmont Abbey); M.B.A., 1980 (University of North Carolina at Charlotte). Certified Public Accountant.

DUKE, CHRISTINE M., English and Foreign Languages
B.A., 1987; M.A., 1994 (State University of New York at Buffalo).

DUKES, BEVERLY B., Health Technologies
A.A.S., 1981 (Central Piedmont Community College). Certified Registered Respiratory Technician, Registered Respiratory Therapist.

DUNCAN, JOHN M., Corporate and Continuing Education
B.A., 1966 (St. Andrews Presbyterian College); M.Ed., 1974 (University of North Carolina at Greensboro). Ed. D., 1993 (North Carolina State University).

DUNLAP, BRUCE E., Accounting and Public Safety
B.S., 1987 (Winston-Salem State University). Graduate study at Wake Forest University.

EDMONDS, WINSTON L., Sr., Special Assistant to the President, TRIO Programs
B.A., 1968 (Virginia State College); M.Ed., 1976 (University of Virginia).

EDWARDS, GRACIE L., Biology
A.A., 1969 (Central Piedmont Community College); B.A., 1981 (Thomas Edison College). Graduate study at University of North Carolina at Charlotte.

EFRID, VICTORIA, Adult Basic Education
B.S., 1975 (East Carolina University); M.A., 1991 (Appalachian State University).

ENGLEBERT, PAMELA J., Senior Production Specialist, Media Production
A.S., 1975; A.A., 1978 (Central Piedmont Community College).

ERVIN, JANICE C., Advancement Studies
B.S., 1973 (North Carolina Central University); M.Ed., 1991 (Queens College).

ESANCY, MICHELLE K., Chemistry

B.A., 1981 (University of North Carolina at Wilmington); B.S., 1982 (University of North Carolina at Wilmington); Textile Chemistry; M.S., 1985 (North Carolina State University). Additional Study at NC State University

FITZGERALD, DUREE J., Senior Interpreter
A.A.S., 1991 (Central Piedmont Community College). Nationally Certified Interpreter, Comprehensive Skills Certificate.

FLANAGAN, J. DAVID, Behavioral and Social Science
B.A., 1963; M.A., 1969 (University of Florida).

FOLEY, RODNEY I., Carpentry and Construction Training,Corporate and Continuing Education
B.S., 1984 (Kent State University); Master Certification in Residential and Commercial Carpentry, 1990, Associated General Contractors of America.

FORRESTER, EILEEN B., Nursing
B.S.N., 1975 (Molloy College); M.A., 1979; Ed.M., 1979 (Columbia University).

FOSTER, T. LINDSAY, Computer and Office Information Systems Technology
B.S., 1970 (Mars Hill College); M.Ed., 1976 (University of North Carolina at Charlotte).

FRENCH, JANIE C., Computer and Office Information Systems Technology
B.S., 1970 (Lesley College); M.A., 1976 (University of Bridgeport).

FUNCHES, TOMMY L., Senior Lab Facilitator, Advancement Studies
A.A., 1982 (Central Piedmont Community College); B.A., 1985 (University of North Carolina at Charlotte).

FUNDERBURKE, BETTY JEAN, Director, Personnel Services
B.A., 1953 (North Carolina Central University). Additional study at University of North Carolina at Chapel Hill, University of Chicago, and University of North Carolina at Charlotte.

GADSDEN, CHRISTINE, Computer and Office Information Systems Technology
A.A., 1959 (Carver College).

GARMON, SANFORD, JR., Director, Diesel Vehicle Maintenance Program
Diploma, 1968; A.G.E., 1972; Associate in Applied Science, 1989 (Central Piedmont Community College); B.S., 1988 (Western Carolina University).

GAY, MELVIN L., Dean, Student Development
B.A., 1967 (North Carolina Wesleyan College); M.A., 1969; PhD., 1974 (University of North Carolina at Chapel Hill).

GENNETT, NICHOLAS D., Vice President, Education Services
B.S., 1960 (Ohio University); M.Ed., 1963; Ph.D., 1966 (Kent State University).

GESTWICKI, CAROL, Early Childhood Program
B.Sc.N., 1962 (McMaster University, Hamilton, Ontario); M.A., 1970 (Drew University).

GIVENS, LYNN M., Advancement Studies
B.S., 1969 (Hampton Institute); M.A. Ed., 1985 (University of North Carolina at Charlotte). Additional graduate study at Marquette University.

GORE, FRED I., Civil Engineering and Surveying Technology
A.S.S., 1976 (West Virginia Institute of Technology); B.S.C.E., 1981; Ed.M., 1979 (West Virginia Institute of Technology). Registered Professional Engineer; Registered Land Surveyor.

GOW, ALEXANDER III, Counselor
A.B., 1958 (Duke University); M.Ed. 1968 (University of North Carolina at Chapel Hill).

GRAHAM, H. PAIGE, Advancement Studies
B.A., 1972; M.A., 1974 (University of South Florida).

GRAHAM, SARA P., Program Coordinator, Student Development
B.S., 1972 (University of Maryland); M.S., 1977 (Morgan State University).

GRANGER, W. FRANKLIN, Graphic Arts Instructor
A.G.A., 1970 (Chowan College); B.S., 1973 (Arkansas State University); M.A., 1977 (California State University at Los Angeles). Additional graduate study at Central Missouri State University.

GRANN-STAHL, LANE, Area Coordinator, South Center
B.A., 1974 (University of Washington). M.B.A., 1994 (University of North Carolina at Charlotte).

GRAVES, ELLANOR L., Department Head, Adult High School/GED
B.A., 1974; M.Ed., 1976 (University of North Carolina at Chapel Hill). Additional study at the University of North Carolina at Charlotte and North Carolina State University.

GREEN, H. Ray, Senior Lab Facilitator, Chemistry
B.S., 1988 (Belmont Abbey College).

GREGORY, RICHARD B., Computer and Office Information Systems Technology
B.S., 1962; M.A., 1966 (Appalachian State University); Ed.D., 1977 (Nova University).

GREGORY, ROSE M., Senior Lab Facilitator, South Area Center
A.G.E., 1985 (Central Piedmont Community College). Certificate of Tutoring-Laubach Reading, 1979. Additional study at Central Piedmont Community College.

GREINER, PATRICIA, Reading
B.S., 1952 (Purdue University); M.Ed., 1976 (Clemson University). Additional graduate study at Florida State University.

GRIFFIN, HELEN, Mathematics
B.S., 1954 (University of North Carolina at Greensboro); M.A., 1976 (University of North Carolina at Charlotte).

GRIFFIN, HOKE S., Program Coordinator, Continuing Education
B.A., 1962; M.A.T., 1966 (University of Florida). Additional study at Florida State University, University of Pennsylvania, University of Rochester, Punjab University (Lahore, Pakistan), University of North Carolina at Chapel Hill.

GRIFFIN, MARY W., Financial Aid Specialist
A.A.S., 1981 (Central Piedmont Community College); B.S., 1983 (Pfeiffer College).

GRIFFIN, THOMAS E., Dean, Educational Resources
B.S., 1952 (Western Carolina University); M.A., 1964 (Appalachian State University); Ed.D., 1976 (Nova University). Additional graduate study at University of North Carolina at Chapel Hill and North Carolina State University.

GRIFFITHS, DAWN CUSTALOW, Limited English Proficiency, ABLE , B.A., 1982 (Bridgewater College); M.Ed., 1989 (Virginia Polytechnic Institute and State University).

HAGLER, MITCHELL, Assistant to the Vice President for Instruction
B.S., 1960 (Appalachian State University); M.A., 1965 (Peabody College); Ed.S., 1973 (Appalachian State University).

HAINES, STEPHANIE, English and Foreign Languages
B.A., 1975 (Virginia Polytechnic Institute and State University); M.S., 1981 (Radford University).

HALBACK, RICHARD, Director, Correctional Services Program
A.S., 1969 (Bernard Baruch School of Business Administration); B.S., 1970; M.A., 1974 (John Jay College of Criminal Justice, New York).

HALL, JAMES E., Department Head, Science
B.S., 1967; M.A., 1968 (Appalachian State University); Ed.D., 1979 (Nova University).

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A.A., 1966 (Central Piedmont Community College); B.A., 1968 (University of Georgia); M.Ed., 1972 (University of North Carolina at Charlotte); Ph.D., (University of North Carolina at Greensboro).

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Study at Gaston College and University of North Carolina at Charlotte.

HARRIS, BOBBIE F., Health Technologies
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B.S. Humanities, 1967 (Butler University); M.Ed., 1975 (University of North Carolina at Charlotte); A.A.S., 1983 (Central Piedmont Community College). Registered Landscape Contractor. Certified Plantsman. Licensed Pesticide Applicator. Reading Specialist. Certified Arborist.

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B.S., 1969 (Atlantic Christian College). N.C. Electrical Contractor's License.

HARRISON, T. GREG, Interpreter Training Program
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A.A., 1958 (Wingate Junior College); A.B., 1960; M.Ed., 1962 (University of North Carolina at Chapel Hill); Ph.D., 1971 (University of South Carolina). Additional study at New York State University.

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Study at Winston-Salem Business College.

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B.F.A., 1967 (Ringling School of Art); M.A.T., 1977 (Winthrop University). Additional study at the University of Madras, Madras, India.

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HEPTIG, RICHARD F., Automotive Technology Program
A.A.S.,in Automotive Service Technician, 1986 (Central Piedmont Community College). ASE Certified Technician.

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B.C.E., 1967 (Auburn University); M.S., 1969 (Air Force Institute of Technology); M.B.A., 1983 (University of South Carolina).

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B.S., 1985 (Virginia State University).

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A.G.E., 1985 (Central Piedmont Community College). Additional study at Central Piedmont Community College and Queens College.

HINSON, SARA ELIZABETH, Associate Degree Nursing
B.S.N., 1982 (University of North Carolina at Charlotte); M.S.N., F.N.P., 1988 (University of North Carolina at Chapel Hill).

HOBBS, MARGARET WAGONER, Computer and Office Information Systems Technology
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HOLLIS, TOM, Performing Arts, Drama
A.B., 1976 (Pfeiffer College); M.F.A., 1978 (Southern Illinois University at Carbondale).

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A.A.S., 1972 (Central Piedmont Community College). Additional study at Pfeiffer College.

HONEYCUTT, IRENE B., English and Foreign Languages
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HORNE, KATHRYN, Performing Arts, Dance
American Ballet Theatre (Dance TCY, Dancer); Broadway Shows; Metropolitan Opera (Ballet Teacher); Manhattan Festival Ballet (Director); Omaha Ballet; Dance Charlotte (Choreographer), Ballet, Opera, and Musical.

HORSTMANN, BARBARA, Counselor
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HOWARD, CLAUDE THOMAS, Director, New Industry Training, Corporate & Continuing Education
B.S., 1973; M.Ed., 1974 (North Carolina State University). Additional graduate study at University of North Carolina at Charlotte, Western Carolina University, and Appalachian State University.

HOWARD, CORA C., Mathematics
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B.S., 1976 (North Carolina State University). Additional study at Appalachian State University.

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N.C. State Level III (Morganton, NC). ICTC National RID Certification, 1987 (Charlotte, NC).

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B.S., 1957 (Johnson C. Smith University); M.S., 1965 (Atlanta University); Ed.D., 1979 (Nova University). Additional graduate study at Rutgers University and North Carolina State University.

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B.S.S.A., 1967 (University of North Carolina at Greensboro); M.A., 1968 (Appalachian State University); Ed.D., 1984 (North Carolina State University).

IBANEZ, HUGO J., English and Foreign Languages
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B.S., 1964 (University of Tampa); M.A., 1968 (Appalachian State University).

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B.S., 1960; M.A., 1961 (East Carolina University).

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B.A., 1972 (Davidson College); Machinist Certificate, 1974 (Davidson County Community College); B.S.M.E., 1978 (North Carolina State University). Registered Engineer.

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B.A., 1975; M.Ed., 1978 (University of North Carolina at Charlotte). Additional graduate study at Clemson University.

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Study at Morgan State College and Central Piedmont Community College. Registered Building Service Manager.Basic Law Enforcement Training. Sworn police officer Charlotte Police Department Reserve.

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B.S., 1964 (University of Colorado); M.A., 1975 (Antioch University); Ph.D., 1991 (University of Denver).

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KENNEDY, GEORGE MANUEL, Art, Commercial Art
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KISER, HELEN T., Practical Nursing
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B.C.S., LL.D., and Juris Doctor, 1951 (Ohio State University). Certified Criminal Justice Instructor. Licensed Private Investigator.

KOONTS, G. DAN, Mechanical/Manufacturing Technology
A.A.S., 1971 (Davidson County Community College); B.E.T., 1976 (University of North Carolina at Charlotte); A.A.S., 1986 (Central Piedmont Community College).

KORTHEUER, STEPHEN D., Mechanical/Manufacturing Engineering Technology
A.A.S., 1985 (Central Piedmont Community College); B.S.E.T., 1988 (Western Carolina University).CMfgE, 1992 (Society of Manufacturing Engineers). Graduate study at Western Carolina University.

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A.A.S., 1983 (Central Piedmont Community College); B.E.T., 1987 (University of North Carolina at Charlotte).

LAKE, BARBARA SUE, Advancement Studies
A.A., 1968 (Central Piedmont Community College); B.A., 1971; M.H.D.L., 1981 (University of North Carolina at Charlotte); A.G.E., 1982 (Central Piedmont Community College). Additional graduate study at North Texas State University and North Carolina State University.

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B.A., 1965 (Mary Baldwin College); M.F.A., 1969 (George Washington University). Additional studies at Amercian Universities XAIX/Marseilles, American University / Cairo and Washington, D.C., Penland School, German Language Institute, the Concoran School of Art, University of North Carolina at Charlotte, University of North Carolina at Chapel Hill.

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A.B., 1960; M.A., 1962 (Emory University); Ed.D., 1981 (Nova University); Cognitive-Behavioral Psychotherapist, 1988 (Georgia State University). Licensed Psychological Associate.

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LASSITER, WILLIAM, Hospitality Education
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LAUNT, JONATHAN T., English and Foreign Languages
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A.A.S., 1989 (Central Piedmont Community College).

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Study at Johnson C. Smith University, Temple University, and Spear and Hutchinson.

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A.A., 1976 (Pennsylvania College of Technology); B.A., 1978 (Lycoming College); M.S., 1982 (Temple University) Ph.D, 1993 (Virginia Polytechnic Institute and State University). Additional graduate study at Bloomsburg University, Pennsylvania State University, and University of Maryland.

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B.S. 1978 (Florida Agricultural & Mechanical University). Graduate of Cannon Financial Institute-Trust Audit and Compliance Schools. Additional graduate study at Pfeiffer College.

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LINDLEY, JOBEA R., Graphic Arts
B.S., 1959 (University of Oregon); M.S., 1964 (University of Oregon). Additional undergraduate study at Central Piedmont Community College. Additional graduate study at Johns Hopkins and Towson State College.

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LOCKLER, RAY W., Environmental Systems Program
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B.A., 1976 (University of Oklahoma); M.S., 1985 (Oklahoma State University). Graduate studies at University of Oklahoma and Golden Gate Seminary.

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B.S., 1974 (Elon College).

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B.S., 1968; M.B.A., (California State University at Fresno); Ed.D., 1991 (University of Northern Colorado).

MARTIN, SAUNDRA R., Business Administration
B.A., M.A. (North Carolina Central University).

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B.A., 1989 (Concord College).

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A.A., 1967; A.S., 1971 (Central Piedmont Community College); B.A., 1984 (University of North Carolina at Charlotte).

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B.A., 1961 (Appalachian State University); M.A.T., 1965 (University of North Carolina at Chapel Hill); Ed.D., 1976 (Nova University).

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A.A.S., 1982; A.A.S., 1984, (Central Piedmont Community College).

McCLAIN, THEORDORE, Auto Body Repair
Study at North Carolina Agricultural and Technical State University.

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N.C. State Level III, 1982 (Charlotte, North Carolina).

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McDOW, ROGER, Air Conditioning, Heating and Refrigeration
Diploma, 1984 (Central Piedmont Community College).

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B.A., 1964 (Johnson C. Smith University); M.S.L.S., 1965 (Atlanta University).

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A.A.S., 1981 (Central Piedmont Community College).

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B.A., 1955 (Earlham College); M.A., 1972 (University of Indianapolis). Additional graduate study at Indiana University.

MCKENZIE, CLAUDIA S., Mathematics
B.S., 1967 (Southern Illinois University, Carbondale); M.S. 1971 (Southern University and University of North Carolina at Greensboro).

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Diploma, 1983; A.A.S., 1985 ; A.G.E., 1992 (Central Piedmont Community College).

McMULLIN, DENNIS G., Director, Commercial Art
Professional Diploma, 1963 (Maryland Institute College of Art). I.D.E.C.

MEE, MARY ANN, Performing Arts, Dance
B.F.A., 1967 (Stephens College). Additional study at Texas Woman's University, University of Oregon, American Dance Festival at Connecticut College, Perry-Mansfield School of Theatre and Dance, Charles Weidman:Expression of Two Arts Theatre.

MELSON, SUSAN CRANE, Senior Librarian
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A.S., 1957 (Southern Technical Institute); B.S., 1968 (North Carolina State University).

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Diploma, 1967 (Gaston College). ASE Master Automotive Technician.

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Study at Queens College, City University of New York, Central Piedmont Community College.

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RN, 1955 (University School of Nursing). Additional study at North Carolina State University.

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B.S., 1966 (University of Alabama); Certificate in Respiratory Therapy, 1968 (Duke University Medical Center)

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A.A.S., 1987 (Central Piedmont Community College); B.S., 1990 (Queens College).

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B.S., 1953 (Davidson College). Additional study at Harvard University.

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B.S.E.E., 1957 (University of Toledo); M.S.E.A., 1966 (Syracuse University). Registered Professional Engineer.

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Study at Miami Dade Community College; Certificate, Stanly Technical College.

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B.S., 1975 (University of North Carolina at Charlotte); A.A.S., 1986 (Central Piedmont Community College); M.Ed., 1991 (University of North Carolina at Charlotte).

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NELSON, GARY, Business Administration
B.S., 1970 (Southern Illinois University); M.H.D.L., 1980 (University of North Carolina at Charlotte). Additional graduate study at Winthrop College.

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B.S., 1970 (Aalborg Seminarium, Denmark); B.A., 1974 (Ambassador College, England).

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A.B., 1947; LL.B., 1956 (Washington and Lee University).

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B.A., 1971 (University of Wisconsin-Madison); MPA, 1986 (University of North Carolina at Charlotte).

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B.A., 1973 (College of New Rochelle); M.B.A., 1987 (Rivier College).

ONYEME, KRISTIN J., Cooperative Education
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ORELL, MARGERY, Library Services
B.A., 1968 (Santa Clara University); Master of Librarianship, 1975 (University of Washington).

OTTERBOURG, EDNA M., Biology
B.S., 1953 (University of North Carolina at Greensboro); M.A.T., 1968 (University of North Carolina at Chapel Hill).

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B.M. (Oberlin Conservatory of Music); M.M. (University of Mississippi). Additional graduate study at Harvard University and Winthrop College.

PATTERSON, DWIGHT, M., Counselor
B.A., 1973, M.A., 1979 (North Carolina Central University).

PAYNE, ANN, Supervisor, Welcome Center
Diploma, 1963 (Waco Business College); Additional study at Central Piedmont Community College.

PAYNE, JAMES W., Welding
Study at Western Carolina University, Central Piedmont Community College, and F.M.C. Ordinance Division Welding School. A.W.S., A.S.M.E., A.B.S. and Military Welding Codes Qualifications, steel and aluminum.

PECKOUS, BEVERLY, Associate Degree Nursing and Practical Nursing
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PITTS, CAROLYN, Director Financial Aid/Veterans and Military Affairs
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POINTER, SHEILA P., Dental Programs
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PRIVETTE, DAVID R., Physical Science
B.A., 1975 (University of North Carolina at Charlotte); M.A., 1978 (University of Georgia).

QUINLEY, JOHN W., Director, Planning & Research
B.A., 1970 (Bard College); M.Ed., 1976 (University of New Hampshire); Ed.S., 1979 (Appalachian State University).

QUINN, EMMA R., Director, Small Business Center
B.G.S., 1980 (Queens College). Additional study at University of North Carolina at Charlotte.

RANDALL, ANNETTE M., English and Foreign Languages
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RASMUSSEN, PHILIP M. II, Instructional Resources and Development
B.S., 1971; M.S., 1972 (Rochester Institute of Technology); Certificate, 1988 (Defense Equal Opportunity and Management Institute); Certificate, 1990 (US Army Engineer School). Additional study at the University of Wyoming and Florida State University.

READ, DANIEL EDWIN, JR., Biology
B.S., 1961 (University of Florida); M.A., 1964 (Duke University). Additional study at University of North Carolina at Greensboro and University of North Carolina at Charlotte.

REEP, SAMUEL C., Department Head, Mathematics
A.A., 1958 (Lees-McRae College); B.S., 1960; M.A., 1964 (Appalachian State University). National Science Fellowship, 1967 (Florida State University). Additional undergraduate study at North Carolina State University. Additional graduate study at Carleton College.

REID, ANN C., Computer and Office Information Systems Technology
B.S., 1959 (Appalachian State University); M.A.T., 1974 (Winthrop College).

REID, JERRY G., Physical Science, Paralegal Technology
B.S., 1955 (Appalachian State University); Graduate studies at Appalachian State University and U.C.L.A.

REID, RUFUS EUGENE, JR., Advancement Studies
B.S., 1958; M.Ed., 1965 (Appalachian State University).

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B.S., 1979 (University of South Carolina); M.B.A., 1991 (Queens College) Surface Warfare Officer School, 1980 (U.S. Navy); Fire Fighting and Repair Party Leader School, 1981 (U.S. Navy); Gas Turbine Main Propulsion School 1982 (U.S. Navy); Certified Plant Engineer 1987 (American Institute of Plant Engineer). Additional study at Central Piedmont Community College and Queens College.

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Diploma in Automotive Mechanics,1972 ; Degree in Automotive Technology,1990 (Central Piedmont Community College). ASE Master Automotive Technician.

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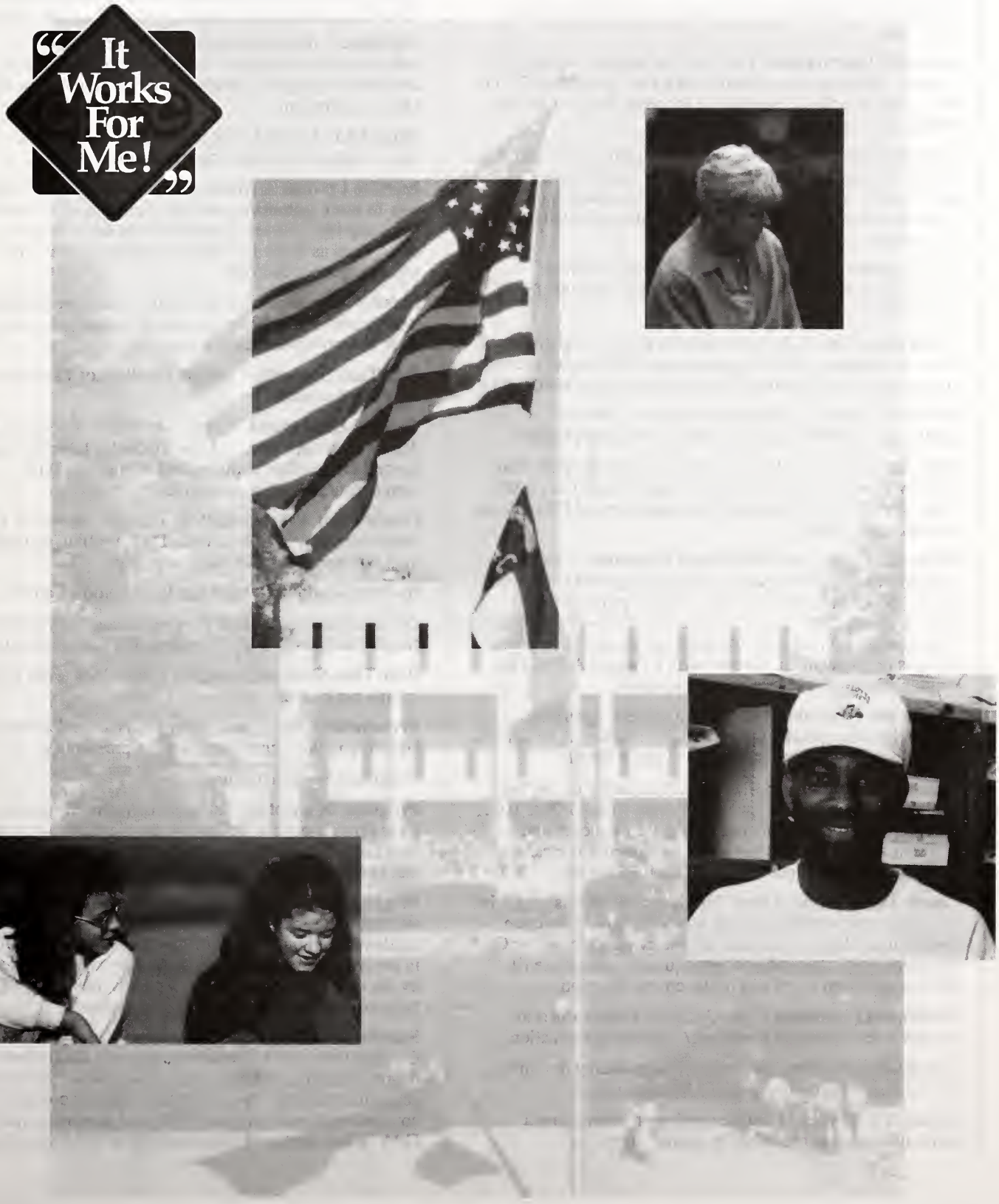

Glossary

The explanations below define words that are frequently used at Central Piedmont Community College.

Academic Advisor: A member of the faculty in a specified program who works with students in that program to help them reach their educational goals.

Academic Assistance: The status of students working for a degree, diploma, or certificate when they earn a GPA less than 2.0 (C) in any quarter, or when they successfully complete less than half of the quarter hours for which they registered.

Academic Intervention: The status of students working for a degree, diploma, or certificate when their program GPA in any quarter is below Standards of Progress required for the number of quarter hours they attempted.

Academic Suspension: The status of students working for a degree, diploma, or certificate after they have been on Academic Intervention for two consecutive quarters of enrollment and their program GPA remains below Standards of Progress.

Advancement Studies Courses: Pre-college courses (identified with 9000 numbers) that prepare students for college-level courses.

Advisement Day: A day each quarter, prior to registration, when no classes are held in order to provide time for students to meet with their Faculty Advisors or Program Counselors.

Associate Degree: A document issued to a student signifying completion of a two-year curriculum/program.

Basic Studies: Pre-college courses that include Adult Basic Literacy Education (ABLE), Adult Basic Education (ABE), Adult High School Diploma (HSD), and General Educational Development (GED).

Business, Health, and Technology Programs: Certificate programs (less than one year), diploma programs (one year), and Associate in Applied Science Degree programs (two years or more) that contain courses with 3000-4000 numbers. Some completed two-year degrees may transfer to four-year colleges or universities. Consult with a Faculty Advisor or Program Counselor regarding transferability.

Certificate: A document issued to a student signifying completion of a specific series of skills courses. A certificate curriculum/program is less than one year in length.

College Visitation Day: Usually held annually during the first week in February in the Taylor Gym from 11:30-1 p.m. when representatives from many four-year colleges and universities, and representatives of the armed services, are available to CPCC students to provide information.

Course Description: A brief description of what is taught in the course and what the student should be able to do upon completion. Classroom hours, laboratory hours, clinic or Co-Op hours, credits earned, and prerequisite/ corequisite (if needed) are listed at the end of the course description.

Continuing Education Unit (C.E.U.): A unit earned in courses offered through Corporate/Continuing Education.

Corequisite: A course that must be taken during the same quarter as the course that requires the corequisite.

Credit: The number of units earned upon completing a curriculum course, measured in quarter hours.

Curriculum (also called a Program): A set of courses designed to prepare a student either to enter the workforce immediately upon completion or to transfer to a degree program at a four-year college or university. Depending upon the length of the program, a degree, diploma, or certificate is awarded upon completion.

Corporate/Continuing Education: A division of CPCC that offers continuing education and extension courses for local businesses, for upgrading skills, or for personal enrichment. These courses have 7000-8000 numbers; some offer C.E.U.'s.

Diploma: A document issued to a student signifying completion of a one-year college curriculum program; also a document signifying completion of the Adult High School Diploma program.

Drop/Add: A period after registration during which students may change their class schedules without penalty.

Elective Course: A course that the student may choose to take to meet diploma/degree requirements, as distinguished from required courses. Some electives are specified within areas, such as Technical Electives, Humanities/Art Electives, others are Free Electives.

Faculty Advisor: A member of the faculty in a program who is assigned as an advisor to students in that program to help them meet their educational goals.

Full-Time Student: A student enrolled for 12 or more credits per quarter.

General Education Courses: Those courses required in all degree programs, ensuring that graduates have the necessary general knowledge, abilities, and intellectual skills commensurate with their degrees.

Grade Point Average (GPA): The total number of grade points earned (A=4; B=3; C=2; D=1; F=0) divided by the total number of quarter hours attempted.

In-State Student: A legal resident of North Carolina.

Out-of-State Student: A legal resident of a state other than North Carolina, or a legal resident of a foreign country.

Part-Time Student: A student enrolled for fewer than 12 credits per quarter.

Prerequisite: Any course that must be completed before enrolling in the course requiring the prerequisite.

Program: See Curriculum.

Program Description: Information about the program including the official definition, degree/diploma/certificate awarded, admissions processing, and a listing of courses in that curriculum.

Program GPA: The grade point average of the courses that are required for completion of a program. To remain in good academic standing, students must maintain a program GPA in accord with the hours for which they enroll, as prescribed by the CPCC Grading Policy. Students must have a final program GPA of 2.0 (C) in order to graduate.

Standards of Progress: Guidelines that are part of CPCC's Grading Policy and include requirements for students in degree, diploma, and certificate programs to maintain good academic standing. These standards include completion of courses, minimum program GPA, and minimum quarterly GPA. When students do not meet these standards, they are

placed on Academic Assistance, Academic Intervention, or Academic Suspension and they work more closely with their Faculty Advisor or Program Counselor in order to reach their educational goals.

Transcript: A student's official academic record.

Transferability: The acceptability for credit of a course or program by another college or university.

Transfer Programs: See College Transfer Programs.

Tuition: The amount of money a student must pay at the time of registration for each hour of academic credit based on the student's residency classification.

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